

10 Samples
Math Placement Exam
Abu Dhabi Polytechnic

MATH PLACEMENT EXAM

Place: **Abu Dhabi Campus:** Mohammad Bin Zayed City, Abu Dhabi
Polytechnic, 2nd Floor

Al Ain Campus: Abu Dhabi Polytechnic, Al Ain, Airport Area

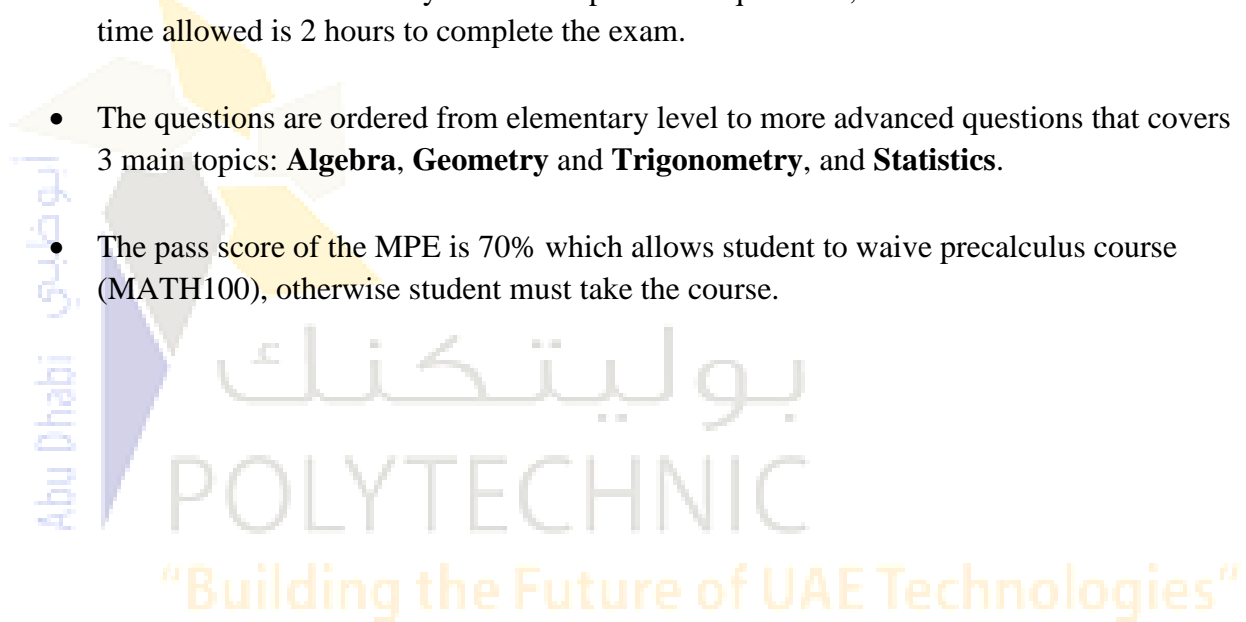
“Building the Future of UAE Technologies”

- **What is the Math Placement Exam**

All students admitted to Abu Dhabi Polytechnic (ADPoly) must take the Math Placement Exam (MPE). Exam results will be used for placement purposes in the appropriate mathematics course for all programs offered by AD Poly. The Academic Support Department at ADPoly uses the result of the exam, to check the math knowledge and skills level of the new students. Hence, the student can be placed at the right math level.

- **General Characteristics of the Exam**

- The exam consists entirely of 50 multiple choice questions, each with four choices. The time allowed is 2 hours to complete the exam.
- The questions are ordered from elementary level to more advanced questions that covers 3 main topics: **Algebra**, **Geometry** and **Trigonometry**, and **Statistics**.
- The pass score of the MPE is 70% which allows student to waive precalculus course (MATH100), otherwise student must take the course.



**The exam is done on the
computer and it has been built
using a multiple-choice format**

- **The Covered Topics in the Exam**

- Algebraic operation on numbers
- Approximate numbers and scientific notations
- Algebraic operations on expressions and equations
- Concept of a function and various functions properties and their graphs
- Solving linear and quadratic equations using various methods
- Solving logarithmic and exponential equations.
- Measurements of angles, lines, triangles, circles and solid figures
- Concept of trigonometric functions and properties of right triangle
- Signs of the trigonometric functions of any angle
- Radian measure and applications
- Vectors and applying the law of sines and cosine on oblique triangles
- Concept of a matrix and Cramer's rule
- Graphs of trigonometric functions
- Elementary statistical concepts and measures

You will save at least one semester of taking math by taking the time to do a careful review of the placement math exam.

- **How to Prepare For The Exam**

- Use the following tutorial web pages, which might help you make a review of all the above topics:

[Khan Academy \(web site: www.khanacademy.org\)](http://www.khanacademy.org)

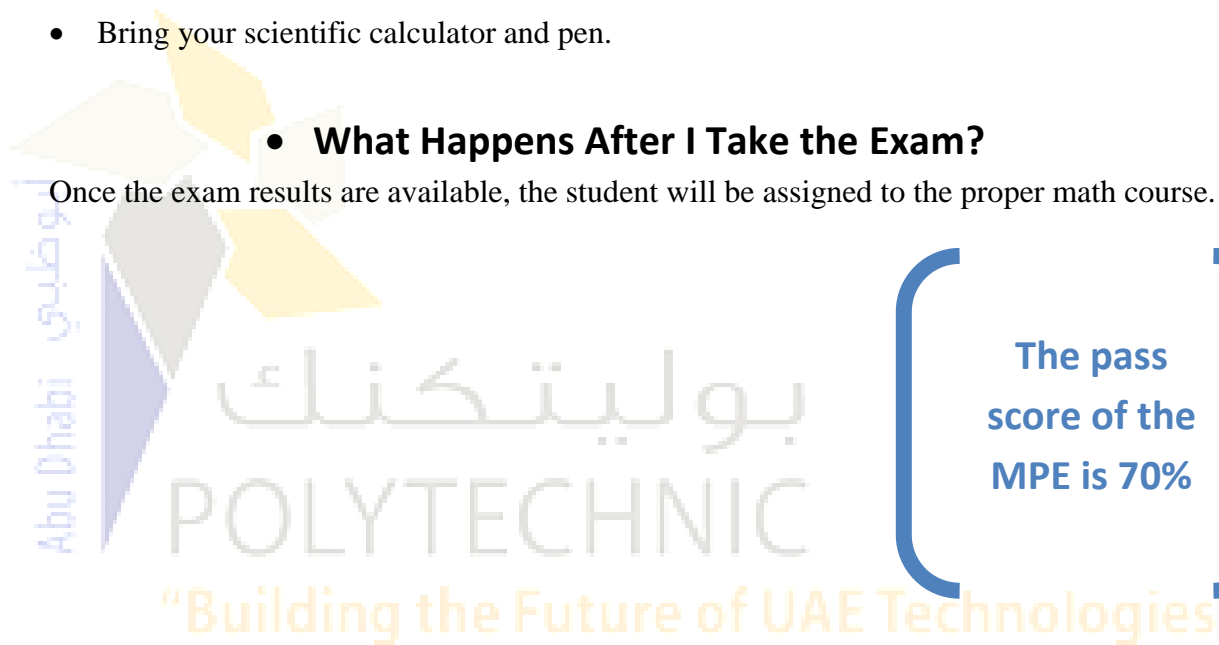
[Patrickjmt \(web site: http://patrickjmt.com/\)](http://patrickjmt.com/)

- You can also see the following reference **books**:
 1. Washington, A. (2009) *Basic Technical Mathematics with Calculus*, Prentice Hall, 9th Edition.
 2. Wallace, T. (2010) *Beginning and Intermediate Algebra*, <http://wallace.ccfaculty.org/book/book.html>
 3. Sullivan, M. (2015) *Precalculus*, Prentice Hall, 10th Edition.
- Check the hardcopy of the sample exam, which is attached to this document, it will give you an idea about the exam level and types of questions.
- Bring your scientific calculator and pen.

- **What Happens After I Take the Exam?**

Once the exam results are available, the student will be assigned to the proper math course.

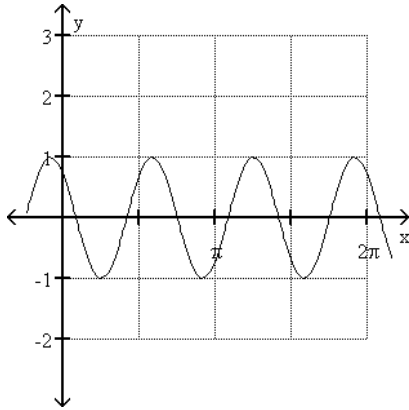
The pass
score of the
MPE is 70%



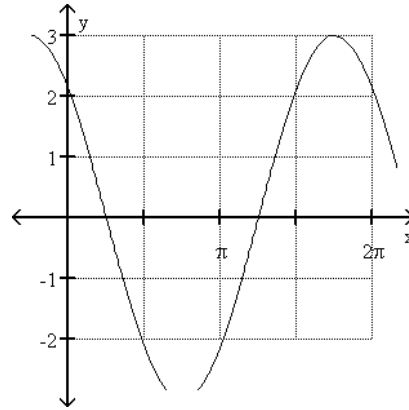
Math Placement Exam

1) Sketch the graph of the function: $y = 3 \sin \left(x + \frac{\pi}{4} \right)$ over the interval $0 \leq x \leq 2\pi$.

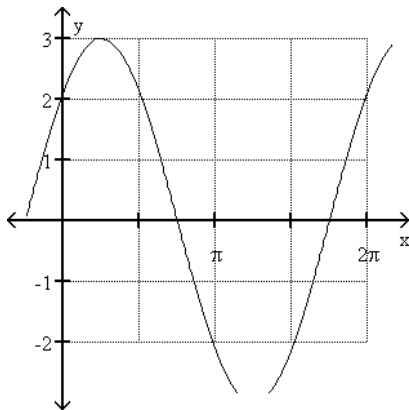
A)



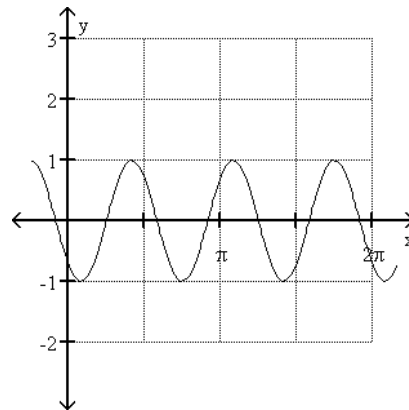
B)



C)



D)



2) Simplify: $(w - 4)^2$

A) $w^2 - 8w + 16$

B) $16w^2 - 8w + 16$

C) $w^2 + 16$

D) $w + 16$

3) Find the amplitude and period of $y = -4 \cos \left(2x + \frac{\pi}{3} \right)$.

A) $-5, \pi$

B) $5, \frac{\pi}{2}$

C) $4, \pi$

D) $2, 2\pi$

4) Solve the equation: $\frac{x}{5} + \frac{x}{9} = 3$

A) 18

B) 6.3

C) 6

D) 3.15

9) Solve the following equation in terms of y : $\ln y + 4 \ln x = 1 + \ln 9$

A) $y = 10 - 4x$

B) $y = \frac{9 + 1}{x^4}$

C) $y = e + 9 - 4x$

D) $y = \frac{9e}{x^4}$

10) Sum and simplify the following expression: $\frac{2}{9x} + \frac{2}{3x} - \frac{1}{x}$

A) 1

B) $\frac{1}{2x}$

C) $\frac{8}{18x}$

D) $\frac{9}{8x}$

11) If $\cos \theta = -0.6$, determine the quadrants in which the terminal side of the angle can lie.

A) I, III

B) II, III

C) I, IV

D) II, IV

12) Find the reciprocal of $-\frac{7}{8}$

A) $\frac{8}{7}$

B) $\frac{7}{8}$

C) 1

D) $-\frac{8}{7}$

13) Evaluate: $\sqrt{256 + 900}$

A) 46

B) 33

C) Not a real number

D) 34

14) Simplify: $(2xy)^{-3}$

A) $\frac{1}{8x^3y^3}$

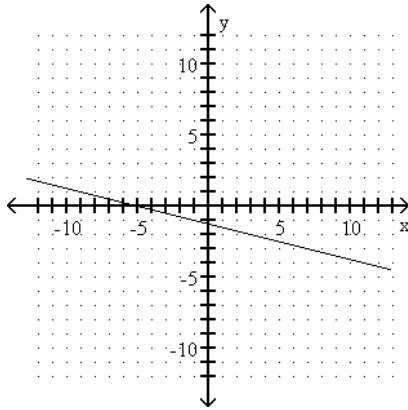
B) $\frac{8}{x^3y^3}$

C) $\frac{x^3y^3}{8}$

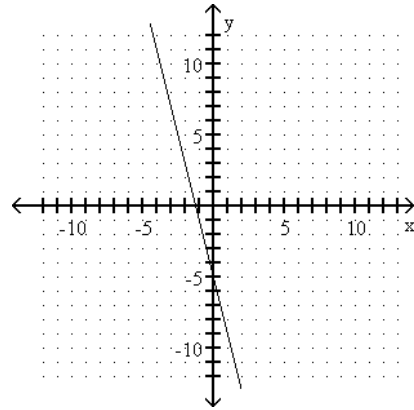
D) $8x^3y^3$

15) Sketch the graph of the line given by the equation: $-4y = x - 5$

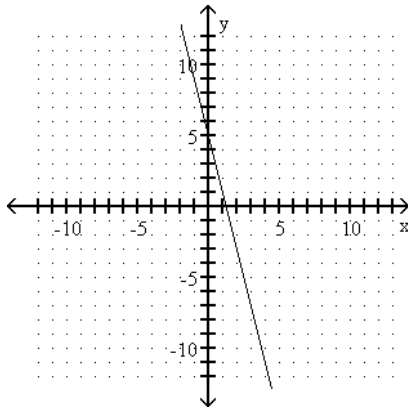
A)



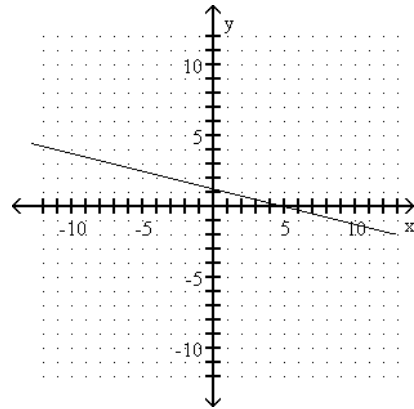
B)



C)



D)



16) Find the absolute value of $|-7.1|$

A) 0

B) -7.1

C) ± 7.1

D) 7.1

17) Perform the following operation: $(3a^3 + 2a^2) + (8a^3 + 5a^2)$

A) $18a^{10}$

B) $11a^3 + 7a^2$

C) $11a^6 + 7a^4$

D) $18a^5$

18) Find the value of $\frac{-38}{0}$

A) 0

B) 38

C) 1

D) Undefined

19) Find $f(a + 2)$ when $f(x) = x^2 - 4$

A) $a^2 + 4a + 0$

B) $a^2 + 4a + 4$

C) $a^2 + 4$

D) $a^2 - 2$

- 20) Vectors $A=11.8$ and $B = 35.8$ are at right angles. Find the magnitude and direction of the resultant vector R
- A) $R = 7.6, \theta = 64^\circ$ B) $R = 7.6, \theta = 26^\circ$ C) $R = 43.5, \theta = 64^\circ$ D) $R = 43.5, \theta = 26^\circ$

- 21) If $\cos \theta = \frac{2}{3}$, find $\tan \theta$.

A) $\frac{\sqrt{5}}{2}$ B) $\frac{2\sqrt{5}}{5}$ C) $\frac{\sqrt{5}}{3}$ D) $\frac{3\sqrt{5}}{5}$

- 22) Simplify : $\frac{b}{b^2 - 25} + \frac{5}{b + 5} - \frac{6}{b}$

A) $\frac{6b^2 - 25b + 150}{b(b + 5)(b - 5)}$ B) $\frac{25(b - 6)}{(b + 5)(b - 5)}$ C) $\frac{25(b + 6)}{b(b + 5)(b - 5)}$ D) $\frac{-25(b - 6)}{b(b + 5)(b - 5)}$

- 23) Solve the following system of equation:

$$9x + 7y = 59$$

$$5x - 2y = 21$$

- A) $x = 5, y = 2$ B) $x = 4, y = 3$ C) $x = 5, y = 3$ D) Inconsistent

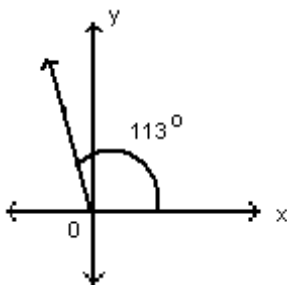
- 24) Convert -245.7° to radian measure. Round to 2 decimal places

- A) -4.28 B) -4.05 C) -4.29 D) -4.04

- 25) Solve the equation : $F = \frac{9}{5}C + 32$, for C

A) $C = \frac{9}{5}(F - 32)$ B) $C = \frac{5}{9}(F - 32)$ C) $C = \frac{5}{F - 32}$ D) $C = \frac{F - 32}{9}$

- 26) Find the horizontal and vertical components of the vector shown in the given figure, where the magnitude of the vector is 497.



- A) 457.2, -193.8 B) -193.8, 457.2 C) 193.8, -457.2 D) -457.2, 193.8

27) Solve the equation: $w = -C \left(\frac{1}{V_2} - \frac{1}{V_1} \right)$ for the variable V_1

A) $V_1 = \frac{CV_2}{C+wV_2}$

B) $V_1 = \frac{CV_2}{C - wV_2}$

C) $V_1 = V_2 - \frac{C}{w}$

D) $V_1 = \frac{CV_2}{w+C}$

28) Evaluate the determinant of:

$$\begin{vmatrix} a & 4 \\ b & -8 \end{vmatrix}$$

A) $-4b+5a$

B) $-5a + 4b$

C) $-4b -5a$

D) $-5a - 4b$

29) Find the domain and range of the function: $f(x) = \frac{9}{17 - x}$

A) Domain: All real numbers; range: All real numbers except 0

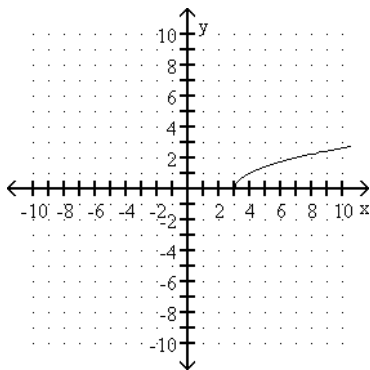
B) Domain: All real numbers except 17; Range: All real numbers

C) Domain: All real numbers; Range: All real numbers

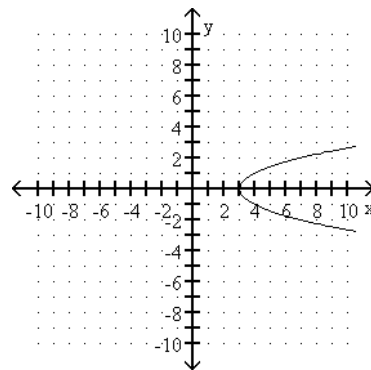
D) Domain: All real numbers except 17; range: All real numbers except 0

30) Graph the function: $y = \sqrt{x - 3}$

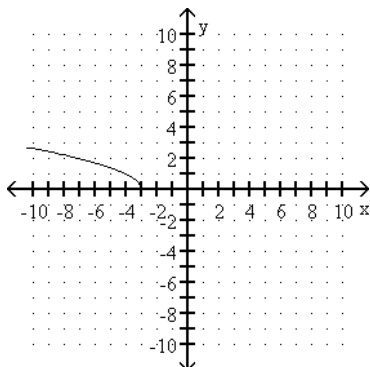
A)



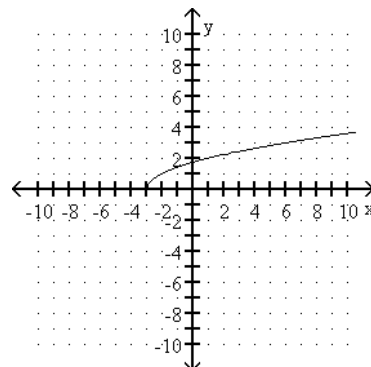
B)



C)



D)



Answer Key

Testname: TEST1

- 1) C
- 2) A
- 3) C
- 4) B
- 5) C
- 6) A
- 7) B
- 8) C
- 9) D
- 10) B
- 11) B
- 12) D
- 13) D
- 14) A
- 15) D
- 16) D
- 17) B
- 18) D
- 19) A
- 20) C
- 21) A
- 22) D
- 23) A
- 24) C
- 25) B
- 26) B
- 27) A
- 28) B
- 29) D
- 30) A

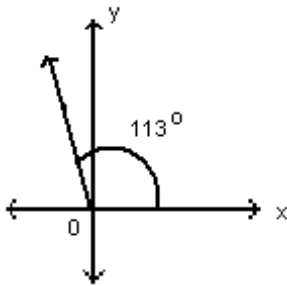
Math Placement Exam

- 1) Simplify: $(w - 5)^2$ 1) _____
 A) $w^2 + 25$ B) $w + 25$
 C) $w^2 - 10w + 25$ D) $25w^2 - 10w + 25$
- 2) Solve the following equation in terms of y : $\ln y + 5 \ln x = 1 + \ln 8$ 2) _____
 A) $y = 9 - 5x$ B) $y = \frac{8e}{x^5}$ C) $y = e + 8 - 5x$ D) $y = \frac{8 + 1}{x^5}$
- 3) If $\cos \theta = \frac{14}{15}$, find $\tan \theta$. 3) _____
 A) $\frac{14\sqrt{29}}{29}$ B) $\frac{\sqrt{29}}{15}$ C) $\frac{\sqrt{29}}{14}$ D) $\frac{15\sqrt{29}}{29}$
- 4) Find the value of $\frac{-17}{0}$ 4) _____
 A) 1 B) 17 C) Undefined D) 0
- 5) Perform the following operation: $(4a^5 - 3a^3) + (3a^5 + 5a^3)$ 5) _____
 A) $7a^{10} + 2a^6$ B) $9a^8$ C) $7a^5 + 2a^3$ D) $9a^{16}$
- 6) Find the domain and range of the function: $f(x) = \frac{8}{16 - x}$ 6) _____
 A) Domain: All real numbers except 16; Range: All real numbers
 B) Domain: All real numbers; range: All real numbers except 0
 C) Domain: All real numbers except 16; range: All real numbers except 0
 D) Domain: All real numbers; Range: All real numbers
- 7) Evaluate: $\sqrt{64 + 225}$ 7) _____
 A) 33 B) Not a real number
 C) 17 D) 23
- 8) Simplify: $(2xy)^{-3}$ 8) _____
 A) $\frac{1}{8x^3y^3}$ B) $\frac{8}{x^3y^3}$ C) $8x^3y^3$ D) $\frac{x^3y^3}{8}$

9) Convert 92.5° to radian measure. Round to 2 decimal places
 A) 1.62 B) 1.57 C) 1.56 D) 1.61 9) _____

10) Solve the equation: $w = -C \left(\frac{1}{V_2} - \frac{1}{V_1} \right)$ for the variable V_1 10) _____
 A) $V_1 = \frac{CV_2}{w+C}$ B) $V_1 = \frac{CV_2}{C+wV_2}$ C) $V_1 = \frac{CV_2}{C-wV_2}$ D) $V_1 = V_2 - \frac{C}{w}$

11) Find the horizontal and vertical components of the vector shown in the given figure, where the magnitude of the vector is 169. 11) _____



A) -155.5, 65.9 B) 65.9, -155.5 C) 155.5, -65.9 D) -65.9, 155.5

12) Identify the rational numbers in the following list: 12) _____
 $18, \sqrt{7}, -21, 0, \frac{0}{9}, \sqrt{16}, 0.5$

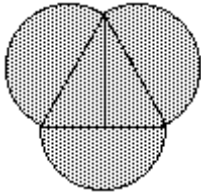
A) $18, -21, 0, \frac{0}{9}$ B) $\frac{0}{9}$
 C) $18, -21, 0, \frac{0}{9}, \sqrt{16}$ D) $18, -21, 0, \frac{0}{9}, \sqrt{16}, 0.5$

13) Find the reciprocal of $-\frac{4}{3}$ 13) _____
 A) $-\frac{3}{4}$ B) 1 C) $\frac{3}{4}$ D) $\frac{4}{3}$

14) If $\cos \theta = -0.3$, determine the quadrants in which the terminal side of the angle can lie. 14) _____
 A) II, IV B) I, IV C) I, III D) II, III

15) Semicircles are placed on the sides of an equilateral triangle with sides 3.32 ft as shown. Find the shaded area.

15) _____



A) 15.7 ft^2

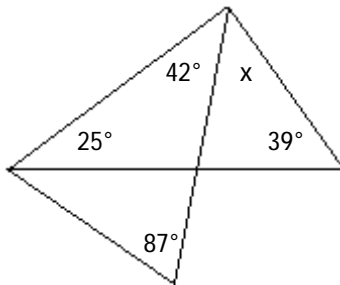
B) 17.8 ft^2

C) 30.7 ft^2

D) 9.10 ft^2

16) Determine the value of x .

16) _____



A) 73°

B) 116°

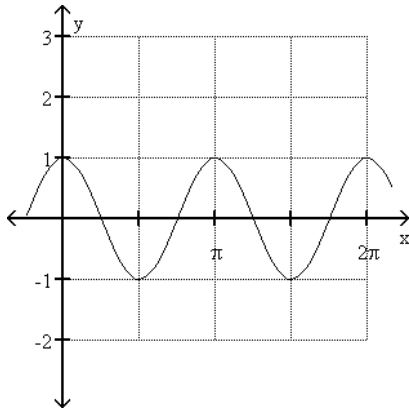
C) 74°

D) 62°

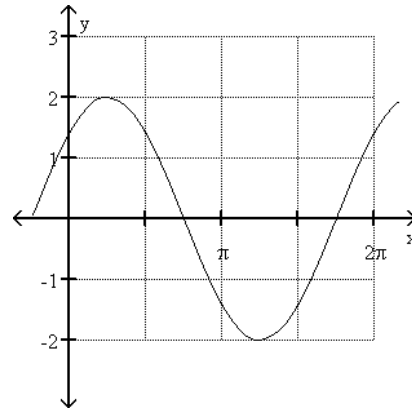
17) Sketch the graph of the function: $y = 2 \sin \left(x + \frac{\pi}{4}\right)$ over the interval $0 \leq x \leq 2\pi$.

17) _____

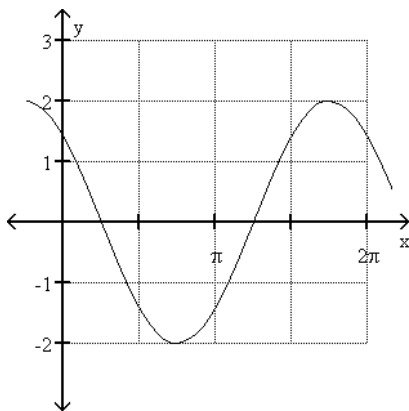
A)



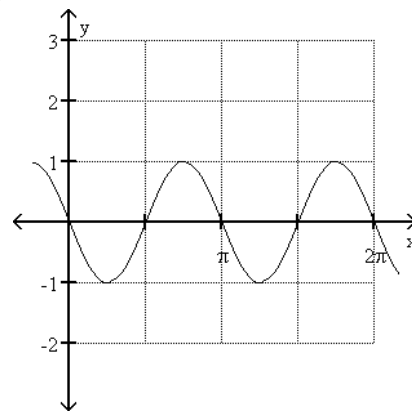
B)



C)



D)



18) Evaluate the determinant of:

$$\begin{vmatrix} a & -2 \\ b & -5 \end{vmatrix}$$

A) $-4b+5a$

B) $-5a + 4b$

C) $-4b -5a$

D) $-5a - 4b$

18) _____

19) Find the amplitude and period of $y = 4 \cos \left(4x + \frac{\pi}{2}\right)$.

19) _____

A) $4, 2\pi$

B) $5, \frac{\pi}{2}$

C) $-5, \pi$

D) $4, \pi$

20) Solve the equation : $F = \frac{9}{5}C + 32$, for C

20) _____

A) $C = \frac{5}{9}(F - 32)$

B) $C = \frac{F - 32}{9}$

C) $C = \frac{5}{F - 32}$

D) $C = \frac{9}{5}(F - 32)$

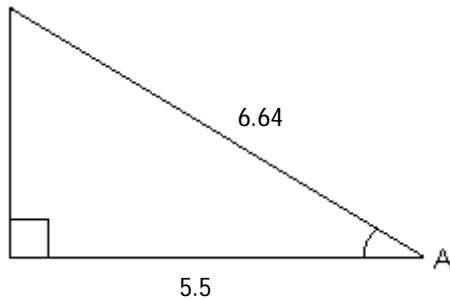
21) Sum and simplify the following expression: $\frac{5}{12x} + \frac{1}{6x} - \frac{1}{x}$ 21) _____

- A) $\frac{7}{24x}$ B) $\frac{1}{2x}$ C) 1 D) $\frac{12}{7x}$

22) Find the absolute value of $|-9.6|$ 22) _____

- A) -9.6 B) ± 9.6 C) 0 D) 9.6

23) In the following right triangle, find the measure of the angle A in degrees. 23) _____



- A) 36.17° B) 32.27° C) 55.93° D) 34.07°

24) Solve the following system of equation: 24) _____

$$9x + 6y = 78$$

$$6x - 4y = 20$$

- A) $x = 5, y = 5$ B) $x = 6, y = 4$ C) $x = 6, y = 5$ D) Inconsistent

25) Vectors $A=11.8$ and $B = 35.8$ are at right angles. Find the magnitude and direction of the resultant vector R 25) _____

- A) $R = 6.6, \theta = 18.2^\circ$ B) $R = 6.6, \theta = 71.8^\circ$
 C) $R = 34.9, \theta = 18.2^\circ$ D) $R = 34.9, \theta = 71.8^\circ$

26) Solve the equation: $\frac{x}{3} + \frac{x}{7} = 3$ 26) _____

- A) 6 B) 3.15 C) 18 D) 6.3

27) Simplify : $\frac{b}{b^2 - 25} + \frac{5}{b + 5} - \frac{6}{b}$

27) _____

A) $\frac{6b^2 - 25b + 150}{b(b + 5)(b - 5)}$

B) $\frac{-25(b - 6)}{b(b + 5)(b - 5)}$

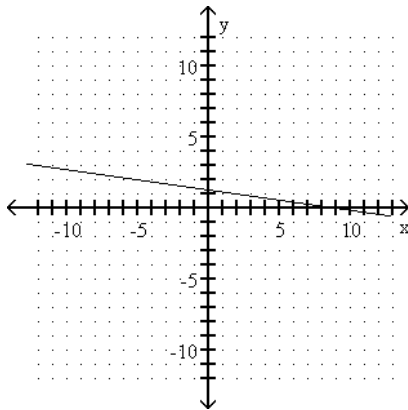
C) $\frac{25(b + 6)}{b(b + 5)(b - 5)}$

D) $\frac{25(b - 6)}{(b + 5)(b - 5)}$

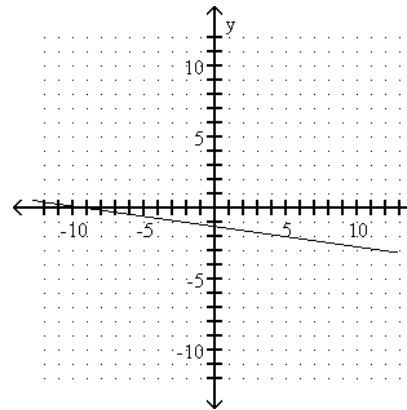
28) Sketch the graph of the line given by the equation: $-7y = x - 9$

28) _____

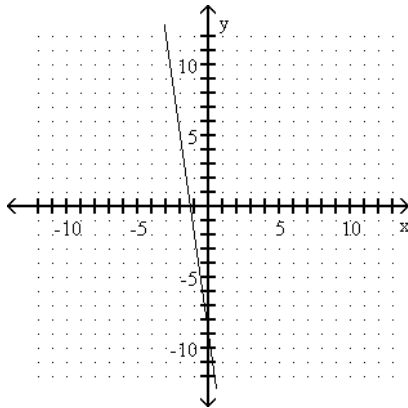
A)



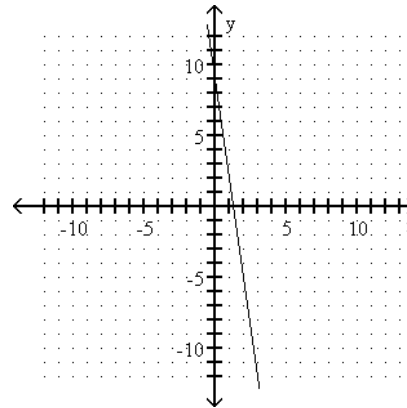
B)



C)



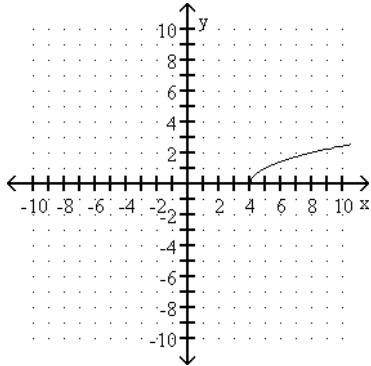
D)



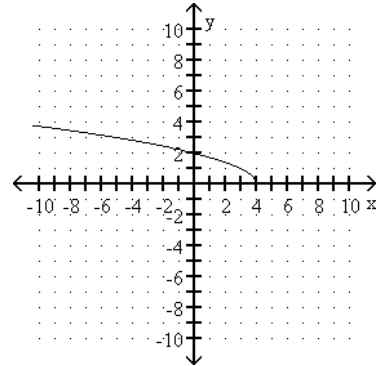
29) Graph the function: $y = \sqrt{x+4}$

29) _____

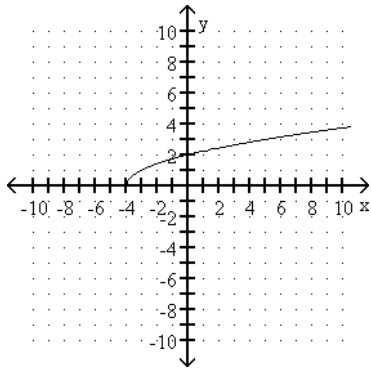
A)



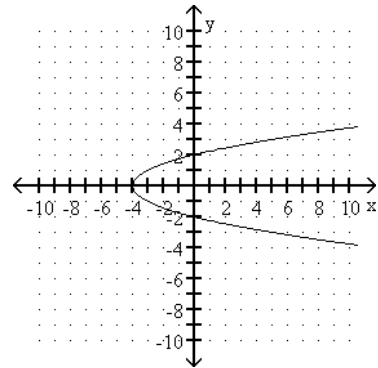
B)



C)



D)



30) Find $f(a - 4)$ when $f(x) = x^2 + 3$

30) _____

A) $a^2 + 16$

B) $a^2 - 8a + 19$

C) $a^2 - 8a + 16$

D) $a^2 - 1$

Answer Key

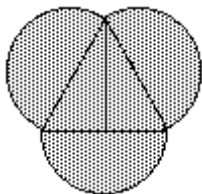
Testname: TEST2

- 1) C
- 2) B
- 3) C
- 4) C
- 5) C
- 6) C
- 7) C
- 8) A
- 9) D
- 10) B
- 11) D
- 12) D
- 13) A
- 14) D
- 15) B
- 16) C
- 17) B
- 18) B
- 19) D
- 20) A
- 21) B
- 22) D
- 23) D
- 24) B
- 25) D
- 26) D
- 27) B
- 28) A
- 29) C
- 30) B

Math Placement Exam

- 1) Semicircles are placed on the sides of an equilateral triangle with sides 8.76 ft as shown. Find the shaded area.

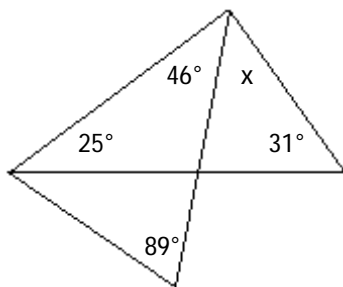
1) _____



- A) 63.4 ft^2 B) 110 ft^2 C) 124 ft^2 D) 214 ft^2

- 2) Determine the value of x .

2) _____



- A) 83° B) 78° C) 64° D) 124°

- 3) Convert -252.1° to radian measure. Round to 2 decimal places

3) _____

- A) -4.14 B) -4.40 C) -4.39 D) -4.15

- 4) If $\cos \theta = -0.3$, determine the quadrants in which the terminal side of the angle can lie.

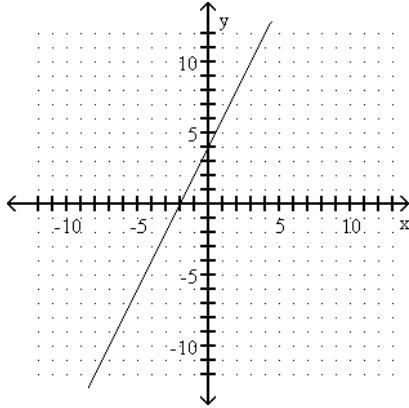
4) _____

- A) II, IV B) I, IV C) II, III D) I, III

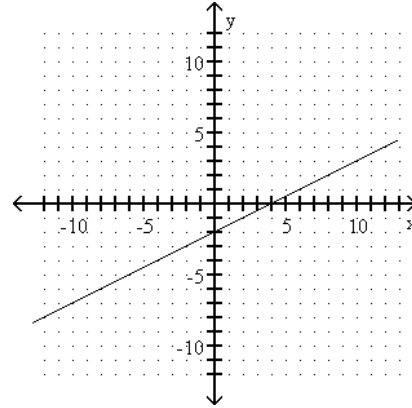
5) Sketch the graph of the line given by the equation: $2y = x + 4$

5) _____

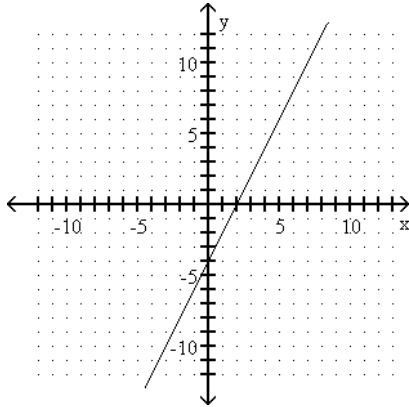
A)



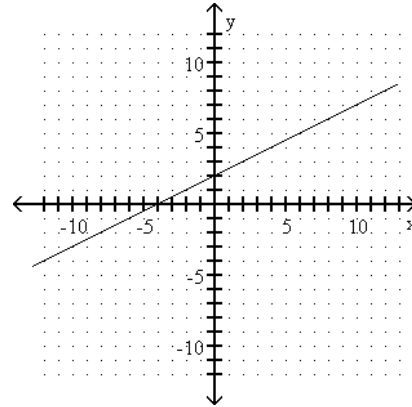
B)



C)



D)



6) Evaluate the determinant of:

$$\begin{vmatrix} a & 2 \\ b & -9 \end{vmatrix}$$

A) $-4b - 5a$

B) $-4b + 5a$

C) $-5a + 4b$

D) $-5a - 4b$

6) _____

7) Find $f(a - 3)$ when $f(x) = x^2 - 1$

A) $a^2 - 4$

B) $a^2 - 6a + 8$

C) $a^2 - 6a + 9$

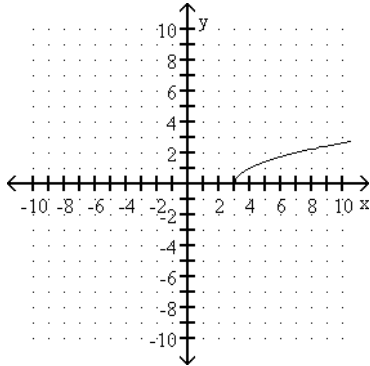
D) $a^2 + 9$

7) _____

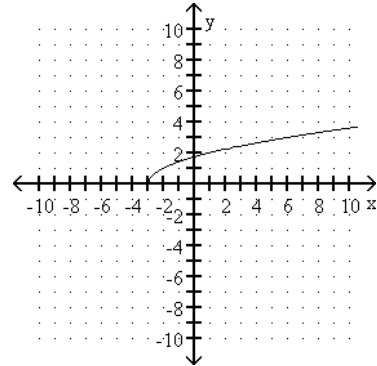
8) Graph the function: $y = \sqrt{x - 3}$

8) _____

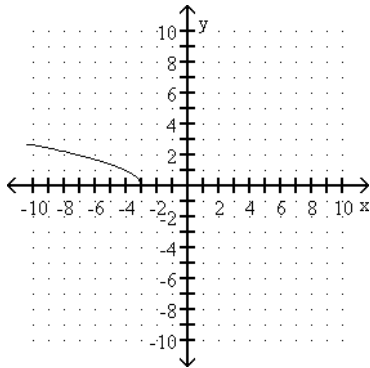
A)



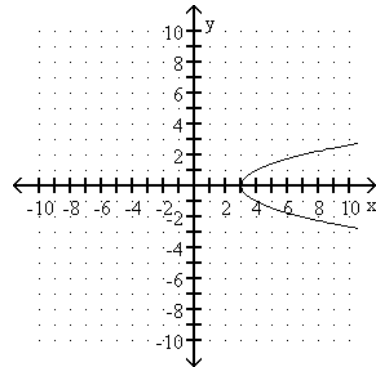
B)



C)



D)



9) Perform the following operation: $(4a^4 + 8a^3) + (9a^4 - 4a^3)$

9) _____

A) $17a^{14}$

B) $17a^7$

C) $13a^8 + 4a^6$

D) $13a^4 + 4a^3$

10) Simplify : $\frac{b}{b^2 - 25} + \frac{5}{b + 5} - \frac{6}{b}$

10) _____

A) $\frac{25(b - 6)}{(b + 5)(b - 5)}$

B) $\frac{-25(b - 6)}{b(b + 5)(b - 5)}$

C) $\frac{6b^2 - 25b + 150}{b(b + 5)(b - 5)}$

D) $\frac{25(b + 6)}{b(b + 5)(b - 5)}$

11) Vectors $A=11.8$ and $B = 35.8$ are at right angles. Find the magnitude and direction of the resultant vector R

11) _____

A) $R = 32.6, \theta = 67.7^\circ$

B) $R = 32.6, \theta = 22.3^\circ$

C) $R = 6.5, \theta = 67.7^\circ$

D) $R = 6.5, \theta = 22.3^\circ$

12) Solve the equation: $w = -C \left(\frac{1}{V_2} - \frac{1}{V_1} \right)$ for the variable V_1 12) _____

A) $V_1 = \frac{CV_2}{w+C}$

B) $V_1 = \frac{CV_2}{C - wV_2}$

C) $V_1 = \frac{CV_2}{C+wV_2}$

D) $V_1 = V_2 - \frac{C}{w}$

13) Solve the following system of equation: 13) _____

$-4x - 4y = 12$

$2x + 2y = -6$

A) $x = -3, y = 0$

B) $x = -2, y = 0$

C) $x = -2, y = -1$

D) Inconsistent

14) Simplify: $(3xy)^{-5}$ 14) _____

A) $\frac{1}{243x^5y^5}$

B) $\frac{243}{x^5y^5}$

C) $243x^5y^5$

D) $\frac{x^5y^5}{243}$

15) Evaluate: $\sqrt{576 + 2025}$ 15) _____

A) 33

B) Not a real number

C) 51

D) 69

16) Find the absolute value of $|-8.9|$ 16) _____

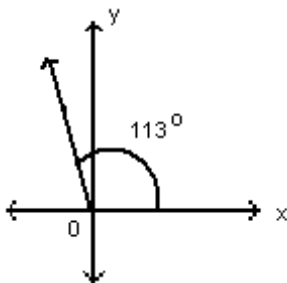
A) -8.9

B) 0

C) 8.9

D) ± 8.9

17) Find the horizontal and vertical components of the vector shown in the given figure, where the magnitude of the vector is 292. 17) _____



A) 113.9, -268.6

B) -268.6, 113.9

C) -113.9, 268.6

D) 268.6, -113.9

18) If $\cos \theta = \frac{9}{14}$, find $\tan \theta$. 18) _____

A) $\frac{14\sqrt{115}}{115}$

B) $\frac{\sqrt{115}}{9}$

C) $\frac{\sqrt{115}}{14}$

D) $\frac{9\sqrt{115}}{115}$

19) Find the reciprocal of $-\frac{2}{9}$

19) _____

A) 1

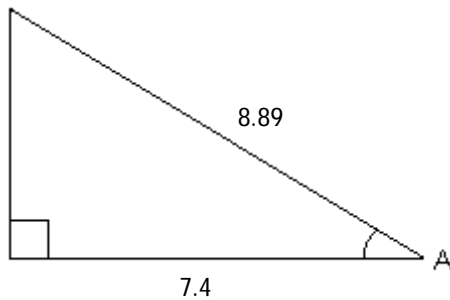
B) $\frac{2}{9}$

C) $\frac{9}{2}$

D) $-\frac{9}{2}$

20) In the following right triangle, find the measure of the angle A in degrees.

20) _____



A) 56.35°

B) 33.65°

C) 35.75°

D) 31.85°

21) Solve the equation: $\frac{x}{3} + \frac{x}{8} = 3$

21) _____

A) 18

B) 6.3

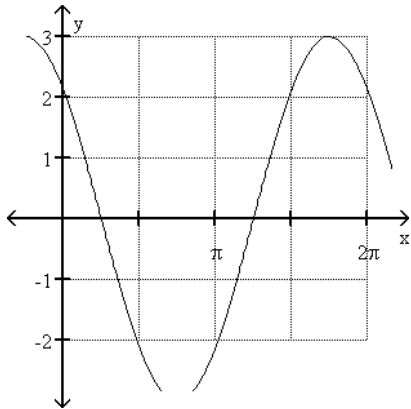
C) 6

D) 3.15

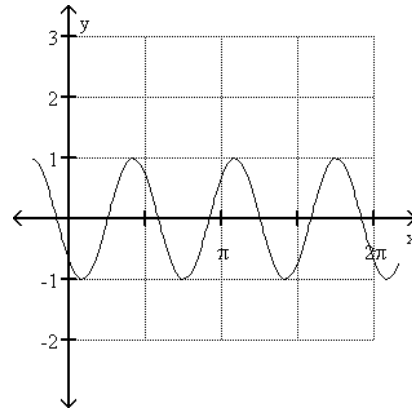
22) Sketch the graph of the function: $y = 3 \sin \left(x + \frac{\pi}{4}\right)$ over the interval $0 \leq x \leq 2\pi$.

22) _____

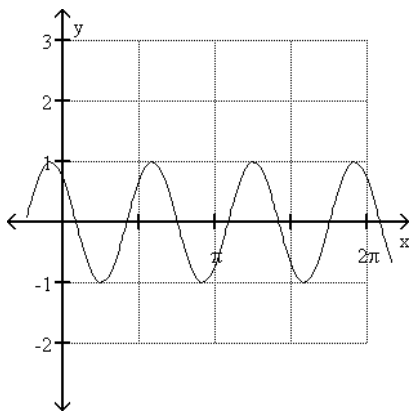
A)



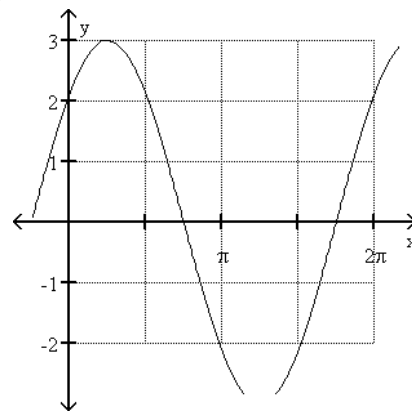
B)



C)



D)



23) Find the amplitude and period of $y = -5 \cos \left(4x + \frac{\pi}{3}\right)$.

23) _____

A) $5, \frac{\pi}{2}$

B) $4, 2\pi$

C) $-5, \pi$

D) $5, \pi$

24) Solve the following equation in terms of y : $\ln y + 10 \ln x = 1 + \ln 9$

24) _____

A) $y = 10 - 10x$

B) $y = \frac{9e}{x^{10}}$

C) $y = \frac{9+1}{x^{10}}$

D) $y = e + 9 - 10x$

25) Sum and simplify the following expression: $\frac{3}{4x} + \frac{1}{6x} - \frac{1}{x}$

25) _____

A) $\frac{1}{24x}$

B) $\frac{11}{24x}$

C) 1

D) $\frac{12}{11x}$

26) Identify the rational numbers in the following list:

26) _____

$$2, \sqrt{7}, -13, 0, \frac{0}{9}, \sqrt{4}, 0.43$$

A) $2, -13, 0, \frac{0}{9}$

B) $2, -13, 0, \frac{0}{9}, \sqrt{4}, 0.43$

C) $2, -13, 0, \frac{0}{9}, \sqrt{4}$

D) $\frac{0}{9}$

27) Find the domain and range of the function: $f(x) = \frac{9}{15 - x}$

27) _____

A) Domain: All real numbers; Range: All real numbers

B) Domain: All real numbers; range: All real numbers except 0

C) Domain: All real numbers except 15; range: All real numbers except 0

D) Domain: All real numbers except 15; Range: All real numbers

28) Solve the equation : $F = \frac{9}{5}C + 32$, for C

28) _____

A) $C = \frac{9}{5}(F - 32)$

B) $C = \frac{F - 32}{9}$

C) $C = \frac{5}{9}(F - 32)$

D) $C = \frac{5}{F - 32}$

29) Simplify : $(w - 10)^2$

29) _____

A) $w^2 + 100$

B) $100w^2 - 20w + 100$

C) $w + 100$

D) $w^2 - 20w + 100$

30) Find the standard deviation. Round to one more place than the data :

30) _____

$$17, 8, 9, 19, 18, 5, 16, 20, 18, 23$$

A) 1.7

B) 5.9

C) 5.5

D) 5.4

Answer Key

Testname: TEST3

- 1) C
- 2) B
- 3) B
- 4) C
- 5) D
- 6) C
- 7) B
- 8) A
- 9) D
- 10) B
- 11) A
- 12) C
- 13) C
- 14) A
- 15) C
- 16) C
- 17) C
- 18) B
- 19) D
- 20) B
- 21) B
- 22) D
- 23) D
- 24) B
- 25) A
- 26) B
- 27) C
- 28) C
- 29) D
- 30) B

Math Placement Exam

- 1) Determine the number of significant digits in the following approximate number: 0.07
 A) 4 B) 3 C) 2 D) 1 1) _____
- 2) Solve the equation for y : $\ln y + 2 \ln x = 1 + \ln 10$
 A) $y = 11 - 2x$ B) $y = \frac{10 + 1}{x^2}$ C) $y = \frac{10e}{x^2}$ D) $y = e + 10 - 2x$ 2) _____
- 3) Solve the following system of equation:
 $5x + 5y = 80$
 $2x - 3y = -3$
 A) $x = 9, y = 8$ B) $x = 9, y = 7$ C) $x = 8, y = 8$ D) Inconsistent 3) _____
- 4) Simplify the following: $\frac{25x}{6(5x+1)} - \frac{1}{6x(5x+1)} + \frac{6}{x}$
 A) $\frac{5(x+7)}{30x^2+6x}$ B) $\frac{25x^2+180x+35}{6x}$
 C) $\frac{25x^2+180x+35}{30x^2+6x}$ D) $\frac{5(x+7)}{6x}$ 4) _____
- 5) Solve the equation: $w = -C \left(\frac{1}{V_2} - \frac{1}{V_1} \right)$ for the variable V_1
 A) $V_1 = V_2 - \frac{C}{w}$ B) $V_1 = \frac{CV_2}{C - wV_2}$ C) $V_1 = \frac{CV_2}{w+C}$ D) $V_1 = \frac{CV_2}{C+wV_2}$ 5) _____
- 6) Express the number 9.96×10^{-4} in standard notation
 A) -996,000 B) 0.00996 C) 0.0000996 D) 0.000996 6) _____
- 7) Find the supplement angle of 54° .
 A) 306° B) 126° C) 36° D) 216° 7) _____
- 8) Find θ for $0^\circ \leq \theta < 360^\circ$, where $\cos \theta = -0.6486$
 A) $130.44^\circ, 229.56^\circ$ B) $40.44^\circ, 139.56^\circ$ C) $130.44^\circ, 49.56^\circ$ D) $130.44^\circ, 310.44^\circ$ 8) _____

9) Find the value of $\frac{0}{6}$

A) 0

B) 1

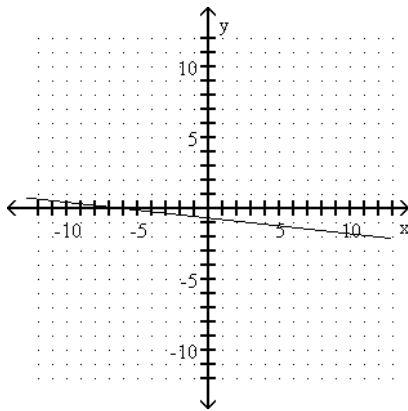
C) 22

D) Undefined

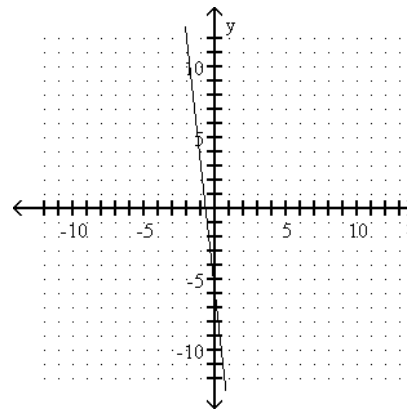
9) _____

10) Sketch the graph of the line given by the equation: $-9y = x + 6$

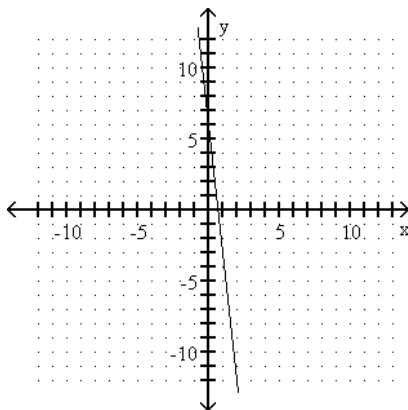
A)



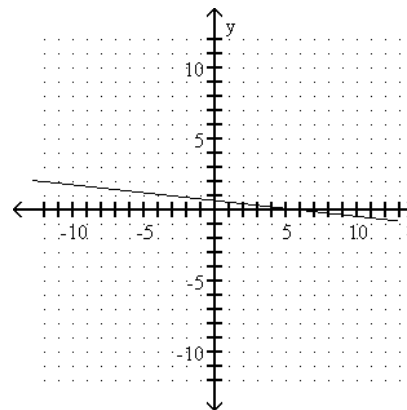
B)



C)



D)



11) Solve the equation: $\frac{x}{2} - \frac{x}{8} = 3$

A) 18

B) $\frac{63}{4}$

C) $\frac{4}{63}$

D) 15

11) _____

12) Solve the equation: $\frac{1}{5}(10x - 25) = \frac{1}{2}(10x - 4)$

A) $\frac{1}{10}$

B) -10

C) -1

D) 1

12) _____

13) If $\cos \theta = \frac{4}{5}$, find $\tan \theta$.

13) _____

A) $\frac{5}{4}$

B) $\frac{-3}{5}$

C) $\frac{3}{4}$

D) $\frac{3}{5}$

14) Find $f(a + 3)$ when $f(x) = x^2 + 1$

14) _____

A) $a^2 + 6a + 9$

B) $a^2 + 6a + 10$

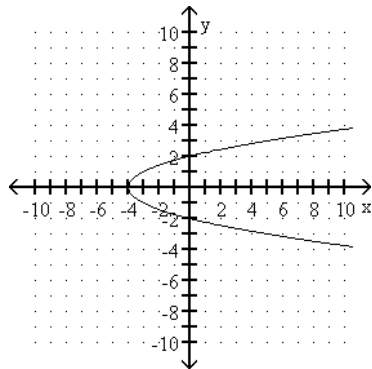
C) $a^2 + 4$

D) $a^2 + 9$

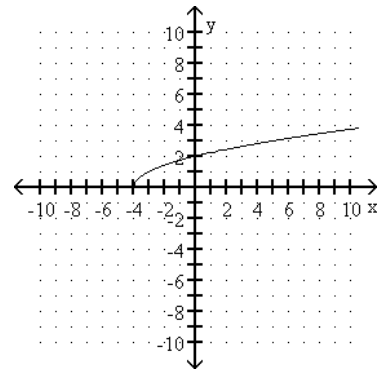
15) Graph the function: $y = \sqrt{x + 4}$

15) _____

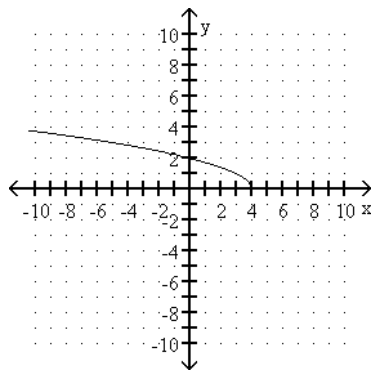
A)



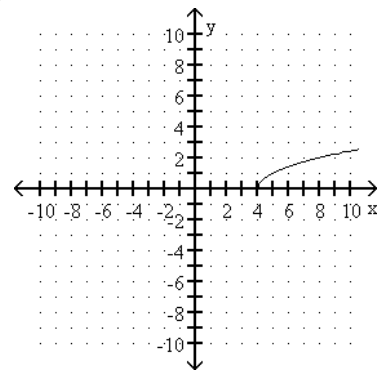
B)



C)

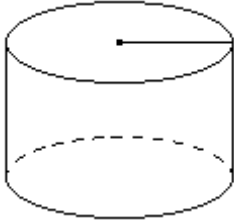


D)



16) The formula for finding the volume of a cylinder is $V = \pi r^2 h$, where r is the radius of the base and h is the height. Determine the volume of a cylinder with radius of 4.50 cm and height of 18.0 cm

16) _____



- A) 1100 in.³ B) 1200 in.³ C) 1150 in.³ D) 1160 in.³

17) Simplify the expression: $x - [7x + (x - 6)]$

17) _____

- A) $-5x - 6$ B) $-6x + 6$ C) $-5x + 6$ D) $-7x + 4$

18) Evaluate the determinant of:

18) _____

$$\begin{vmatrix} 3 & -b \\ b & 1 \end{vmatrix}$$

- A) $15 + b^2$ B) $15 + b^2$ C) $-15 - b^2$ D) $-15 + b^2$

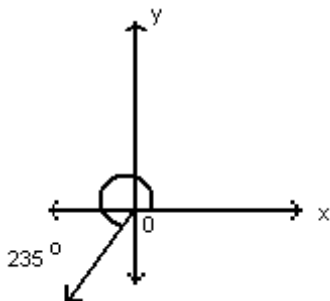
19) Evaluate: $\sqrt{1024 + 3600}$

19) _____

- A) 92 B) Not a real number
C) 33 D) 68

20) Find the horizontal and vertical components of the vector shown in the given figure, where the magnitude of the vector is 292.

20) _____



- A) -167.5, -239.1 B) 239.1, 167.5 C) 167.5, 239.1 D) -239.1, -167.5

21) If $\cos \theta = 0.2$, determine the quadrants in which the terminal side of the angle can lie.

21) _____

- A) II, III B) I, III C) II, IV D) I, IV

22) Find the amplitude and period of $y = 5 \cos \left(x + \frac{\pi}{3}\right)$. 22) _____

- A) $2, 2\pi$ B) $5, \frac{\pi}{2}$ C) $5, 2\pi$ D) $-5, \pi$

23) Find the reciprocal of $-\frac{4}{a}$ 23) _____

- A) $-\frac{6}{a}$ B) $\frac{4}{a}$ C) $-\frac{a}{4}$ D) 1

24) If the speed of light is 3.00×10^8 m/sec, how long does it take light to travel 2.29×10^{11} m which is the distance from the sun to Mars? Express your answer in scientific notation. 24) _____

- A) 7.6×10^3 sec B) 7.6 sec C) 76 sec D) 7.6×10^2 sec

Find the standard deviation. Round to one more place than the data.

25) 1, 4, 10, 14, 6, 15, 17, 9, 17 25) _____

- A) 6.2 B) 5.5 C) 1.3 D) 5.8

26) Convert -46.1° to radian measure. Round to 2 decimal places 26) _____

- A) -0.80 B) -0.79 C) -0.73 D) -0.72

27) Simplify the following expression: $\frac{1}{2x} - \frac{7}{10x} - \frac{1}{x}$ 27) _____

- A) $\frac{2}{10x}$ B) $-\frac{2}{5x}$ C) 1 D) $\frac{1}{2x}$

28) Simplify: $(w - 4)^2$ 28) _____

- A) $w^2 - 8w + 16$ B) $4w^2 - 8w + 16$ C) $w^2 + 16$ D) $w + 16$

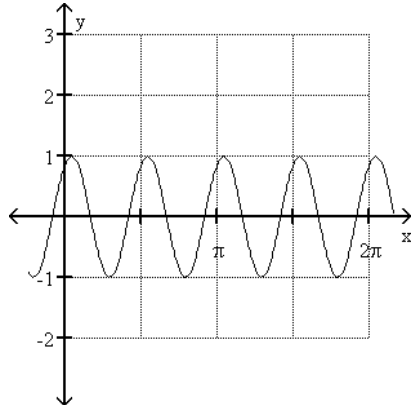
29) Find the domain and range of the function: $f(x) = \frac{15}{16 - x}$ 29) _____

- A) Domain: All real numbers; range: All real numbers except 0
 B) Domain: All real numbers; Range: All real numbers
 C) Domain: All real numbers except 16; Range: All real numbers
 D) Domain: All real numbers except 16; range: All real numbers except 0

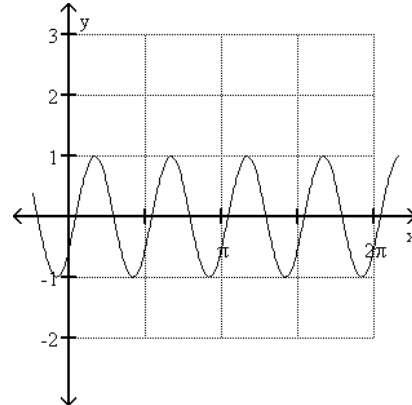
30) Sketch the graph of the function: $y = -2 \cos(2x - \frac{\pi}{3})$ over the interval $0 \leq x \leq 2\pi$.

30) _____

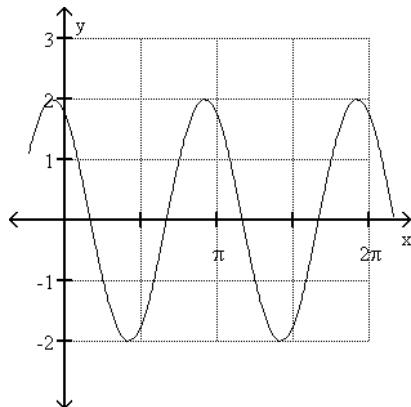
A)



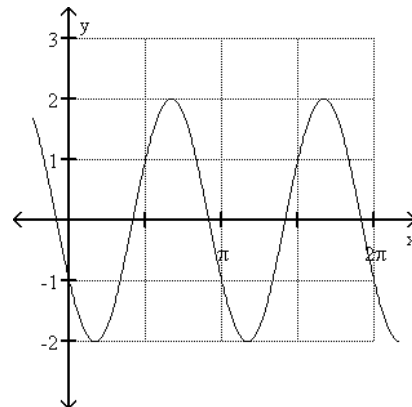
B)



C)



D)



Answer Key

Testname: TEST4

- 1) D
- 2) C
- 3) B
- 4) D
- 5) D
- 6) D
- 7) B
- 8) A
- 9) A
- 10) A
- 11) B
- 12) C
- 13) C
- 14) B
- 15) B
- 16) C
- 17) D
- 18) D
- 19) D
- 20) A
- 21) D
- 22) C
- 23) C
- 24) D
- 25) D
- 26) A
- 27) B
- 28) A
- 29) D
- 30) D

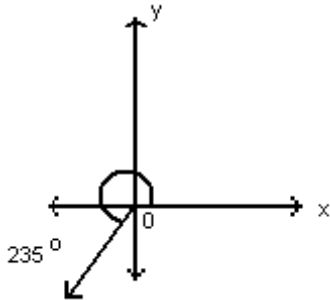
Math Placement Exam

- 1) Find θ for $0^\circ \leq \theta < 360^\circ$, where $\cos \theta = 0.1563$ 1) _____
A) $81.01^\circ, 98.99^\circ$ B) $8.99^\circ, 188.99^\circ$ C) $81.01^\circ, 261.01^\circ$ D) $81.01^\circ, 278.99^\circ$
- 2) Find the amplitude and period of $y = 5 \cos(x + \frac{\pi}{3})$. 2) _____
A) $5, \frac{\pi}{2}$ B) $2, 2\pi$ C) $-5, \pi$ D) $3, 2\pi$
- 3) Find the supplement angle of 70° . 3) _____
A) 200° B) 110° C) 290° D) 20°
- 4) Evaluate the determinant of: 4) _____
$$\begin{vmatrix} 3 & -b \\ b & 8 \end{vmatrix}$$

A) $-15 + b^2$ B) $-15 - b^2$ C) $15 + b^2$ D) $15 + b^2$
- 5) Find $f(a - 2)$ when $f(x) = x^2 + 5$ 5) _____
A) $a^2 + 3$ B) $a^2 + 4$ C) $a^2 - 4a + 9$ D) $a^2 - 4a + 4$
- 6) Solve the equation for y : $\ln y + 7 \ln x = 1 + \ln 8$ 6) _____
A) $y = \frac{8 + 1}{x^7}$ B) $y = 9 - 7x$ C) $y = \frac{8e}{x^7}$ D) $y = e + 8 - 7x$

7) Find the horizontal and vertical components of the vector shown in the given figure, where the magnitude of the vector is 121.

7) _____



A) -99.1, -69.4

B) 99.1, 69.4

C) 69.4, 99.1

D) -69.4, -99.1

8) Find the reciprocal of $-\frac{5}{a}$

8) _____

A) $\frac{5}{a}$

B) $-\frac{a}{5}$

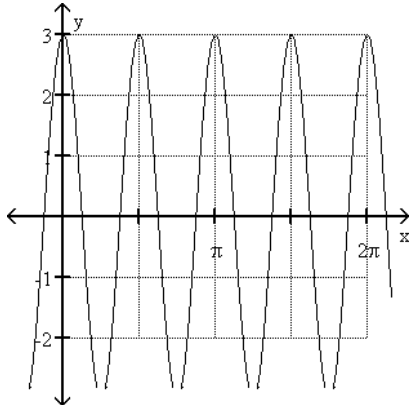
C) $\frac{-6}{a}$

D) 1

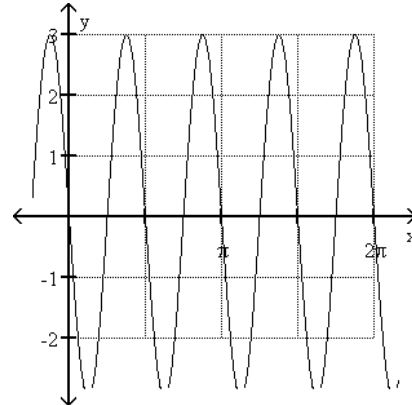
9) Sketch the graph of the function: $y = -3 \cos(4x - \frac{\pi}{2})$ over the interval $0 \leq x \leq 2\pi$.

9) _____

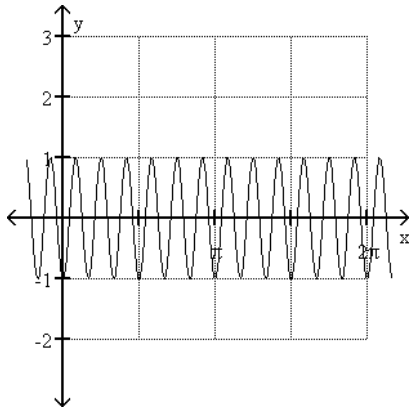
A)



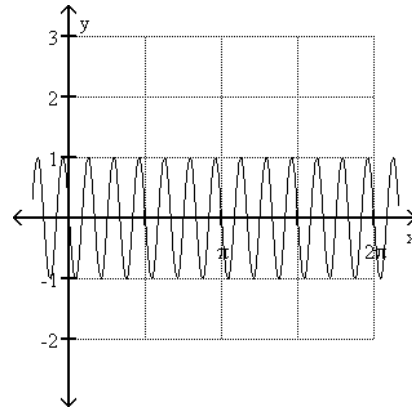
B)



C)



D)



10) Solve the equation: $\frac{1}{5}(10x - 20) = \frac{1}{3}(12x - 6)$

10) _____

A) -8

B) $\frac{1}{8}$

C) 1

D) -1

11) Solve the equation: $\frac{x}{3} - \frac{x}{7} = 3$

11) _____

A) 18

B) $\frac{4}{63}$

C) $\frac{63}{4}$

D) 15

12) Evaluate: $\sqrt{64 + 225}$

12) _____

A) Not a real number

B) 33

C) 23

D) 17

Academic Support Department ASD

Find the standard deviation. Round to one more place than the data.

13) 3, 4, 12, 9, 6, 17, 8, 14, 11

A) 1.2

B) 5.0

C) 4.4

D) 4.6

13) _____

14) Express the number 3.66×10^{-4} in standard notation

A) -366,000

B) 0.0000366

C) 0.00366

D) 0.000366

14) _____

15) Simplify the following expression: $\frac{2}{3x} - \frac{3}{4x} - \frac{1}{x}$

A) 1

B) $\frac{2}{10x}$

C) $-\frac{2}{5x}$

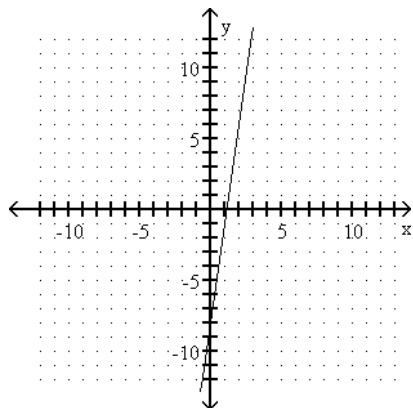
D) $\frac{1}{2x}$

15) _____

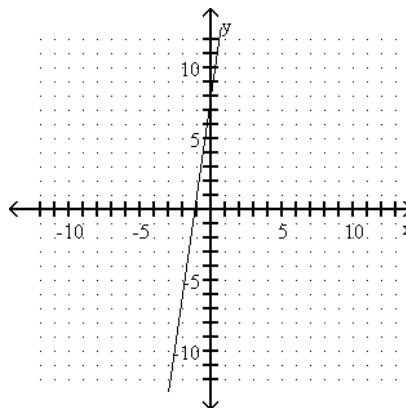
16) Sketch the graph of the line given by the equation: $7y = x + 8$

16) _____

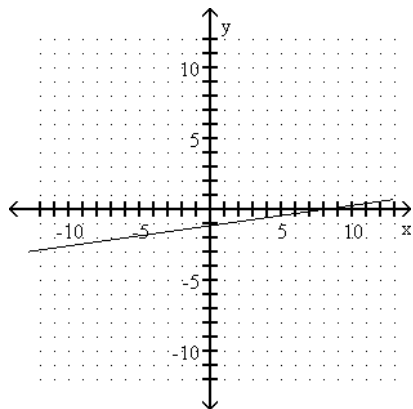
A)



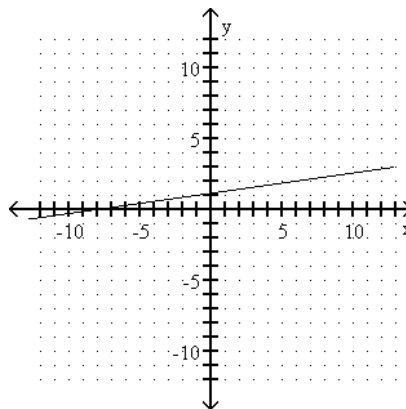
B)



C)



D)



17) Determine the number of significant digits in the following approximate number: 0.07

A) 1

B) 2

C) 4

D) 3

17) _____

18) Find the value of $\frac{0}{6}$ 18) _____

- A) 0 B) 80 C) 1 D) Undefined

19) Simplify: $(w - 4)^2$ 19) _____

- A) $4w^2 - 8w + 16$ B) $w + 16$ C) $w^2 - 8w + 16$ D) $w^2 + 16$

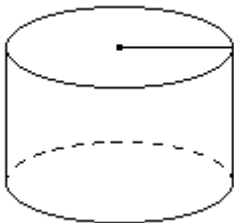
20) Simplify the expression: $x - [5x + (x - 9)]$ 20) _____

- A) $-5x + 4$ B) $-3x + 9$ C) $-9x + 9$ D) $-3x - 9$

21) Solve the equation: $w = -C \left(\frac{1}{V_2} - \frac{1}{V_1} \right)$ for the variable V_1 21) _____

- A) $V_1 = \frac{CV_2}{C+wV_2}$ B) $V_1 = \frac{CV_2}{C - wV_2}$ C) $V_1 = \frac{CV_2}{w+ C}$ D) $V_1 = V_2 - \frac{C}{w}$

22) The formula for finding the volume of a cylinder is $V = \pi r^2 h$, where r is the radius of the base and h is the height. Determine the volume of a cylinder with radius of 4.50 cm and height of 18.0 cm 22) _____



- A) 1200 in.³ B) 1150 in.³ C) 1100 in.³ D) 1160 in.³

23) Find the domain and range of the function: $f(x) = \frac{10}{17 - x}$ 23) _____

- A) Domain: All real numbers; Range: All real numbers
 B) Domain: All real numbers except 17; Range: All real numbers
 C) Domain: All real numbers; range: All real numbers except 0
 D) Domain: All real numbers except 17; range: All real numbers except 0

24) If $\cos \theta = 0.7$, determine the quadrants in which the terminal side of the angle can lie. 24) _____

- A) I, IV B) I, III C) II, III D) II, IV

25) Solve the following system of equation:

$$-6x + 8y = 78$$

$$4x - 2y = -32$$

A) $x = -5, y = 6$

B) $x = -5, y = 7$

C) $x = -6, y = 7$

D) Inconsistent

25) _____

26) Simplify the following: $\frac{4x}{5(2x+1)} - \frac{1}{5x(2x+1)} + \frac{3}{x}$

A) $\frac{2(x+7)}{5x}$

B) $\frac{4x^2 + 30x + 14}{5x}$

C) $\frac{4x^2 + 30x + 14}{10x^2 + 5x}$

D) $\frac{2(x+7)}{10x^2 + 5x}$

26) _____

27) If the speed of light is 3.00×10^8 m/sec, how long does it take light to travel 2.29×10^{11} m which is the distance from the sun to Mars? Express your answer in scientific notation.

A) 7.6×10^2 sec

B) 7.6×10^3 sec

C) 7.6 sec

D) 76 sec

27) _____

28) Convert -212.5° to radian measure. Round to 2 decimal places

A) -3.49

B) -3.71

C) -3.48

D) -3.70

28) _____

29) If $\cos \theta = \frac{4}{5}$, find $\tan \theta$.

A) $\frac{3}{4}$

B) $\frac{5}{4}$

C) $\frac{-3}{5}$

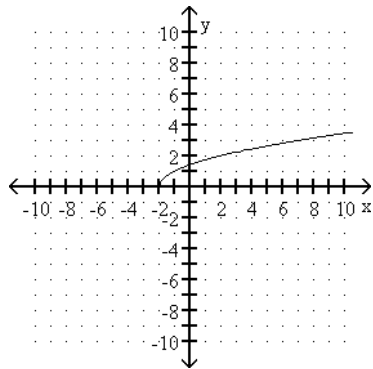
D) $\frac{3}{5}$

29) _____

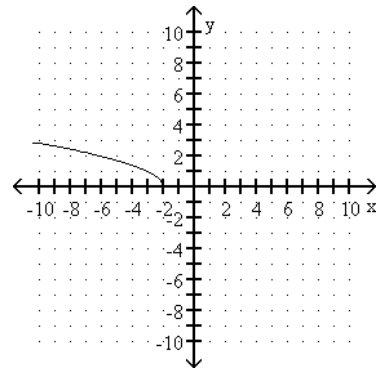
30) Graph the function: $y = \sqrt{x - 2}$

30) _____

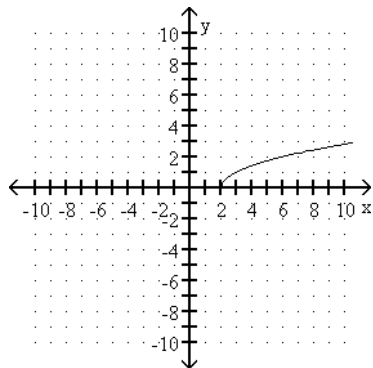
A)



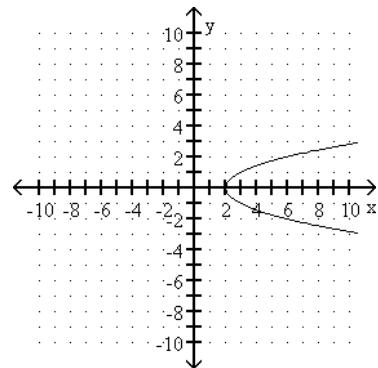
B)



C)



D)



Answer Key

Testname: TEST5

- 1) D
- 2) B
- 3) B
- 4) A
- 5) C
- 6) C
- 7) D
- 8) B
- 9) B
- 10) D
- 11) C
- 12) D
- 13) D
- 14) D
- 15) C
- 16) D
- 17) A
- 18) A
- 19) C
- 20) A
- 21) A
- 22) B
- 23) D
- 24) A
- 25) A
- 26) A
- 27) A
- 28) B
- 29) A
- 30) C

Math Placement Exam

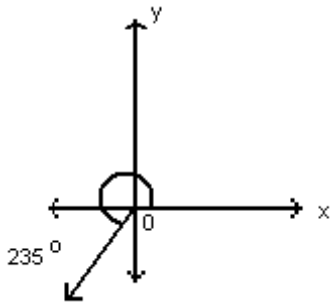
1) Solve the equation: $\frac{x}{2} - \frac{x}{7} = 3$ 1) _____

A) $\frac{63}{4}$ B) 15 C) $\frac{4}{63}$ D) 18

2) Solve the equation: $\frac{1}{4}(12x - 20) = \frac{1}{5}(25x - 15)$ 2) _____

A) -1 B) $\frac{1}{15}$ C) 1 D) -15

3) Find the horizontal and vertical components of the vector shown in the given figure, where the magnitude of the vector is 388. 3) _____



- A) -222.6, -317.8 B) -317.8, -222.6 C) 317.8, 222.6 D) 222.6, 317.8

4) Find the amplitude and period of $y = 5 \cos(x + \frac{\pi}{3})$. 4) _____

A) 2, 2π B) -5, π C) 5, $\frac{\pi}{2}$ D) 3, 2π

5) Simplify the following expression: $\frac{1}{2x} - \frac{9}{10x} - \frac{1}{x}$ 5) _____

A) $-\frac{2}{5x}$ B) $\frac{2}{10x}$ C) 1 D) $\frac{1}{2x}$

6) Find the supplement angle of 76° . 6) _____

A) 284° B) 14° C) 194° D) 104°

7) Solve the equation for y : $\ln y + 8 \ln x = 1 + \ln 8$

A) $y = e + 8 - 8x$

B) $y = \frac{8+1}{x^8}$

C) $y = 9 - 8x$

D) $y = \frac{8e}{x^8}$

7) _____

8) Express the number 4.38×10^{-4} in standard notation

A) -438,000

B) 0.0000438

C) 0.000438

D) 0.00438

8) _____

9) If $\cos \theta = \frac{4}{5}$, find $\tan \theta$.

A) $\frac{3}{4}$

B) $-\frac{3}{5}$

C) $\frac{5}{4}$

D) $\frac{3}{5}$

9) _____

10) Find the reciprocal of $-\frac{9}{a}$

A) 1

B) $-\frac{a}{9}$

C) $\frac{9}{a}$

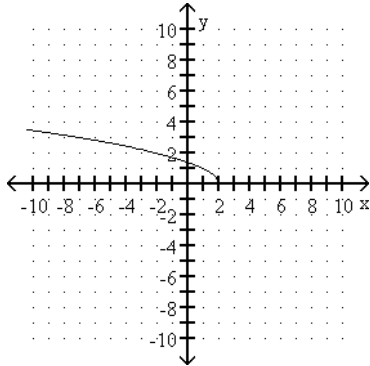
D) $\frac{-6}{a}$

10) _____

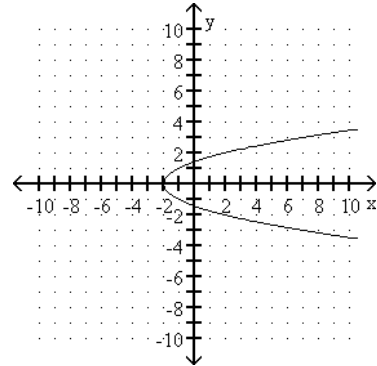
11) Graph the function: $y = \sqrt{x+2}$

11) _____

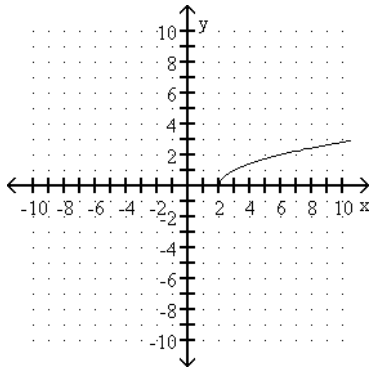
A)



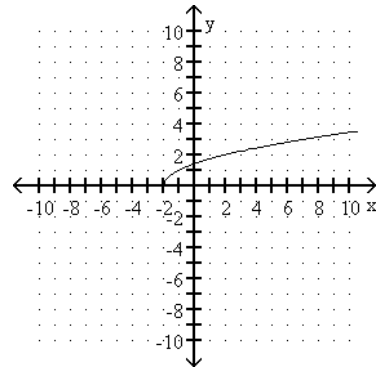
B)



C)



D)



12) Solve the following system of equation:

12) _____

$$-6x + 6y = 6$$

$$2x - 2y = -2$$

A) $x = -2, y = 0$

B) $x = -2, y = -1$

C) $x = -3, y = 0$

D) Inconsistent

13) Find the value of $\frac{0}{6}$

13) _____

A) 0

B) Undefined

C) 86

D) 1

14) Simplify: $(w - 4)^2$

14) _____

A) $w + 16$

B) $w^2 - 8w + 16$

C) $w^2 + 16$

D) $4w^2 - 8w + 16$

15) Determine the number of significant digits in the following approximate number: 0.07

15) _____

A) 4

B) 1

C) 2

D) 3

16) Solve the equation: $w = -C \left(\frac{1}{V_2} - \frac{1}{V_1} \right)$ for the variable V_1 16) _____

A) $V_1 = \frac{CV_2}{C+wV_2}$

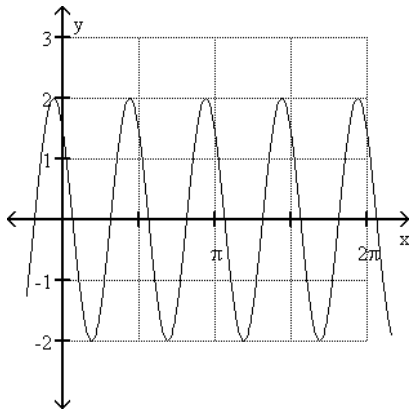
B) $V_1 = V_2 - \frac{C}{w}$

C) $V_1 = \frac{CV_2}{w+C}$

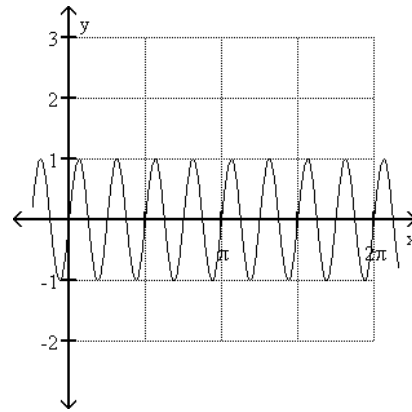
D) $V_1 = \frac{CV_2}{C - wV_2}$

17) Sketch the graph of the function: $y = -2 \cos \left(4x - \frac{\pi}{4} \right)$ over the interval $0 \leq x \leq 2\pi$. 17) _____

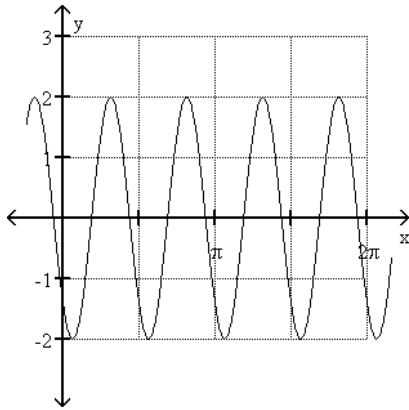
A)



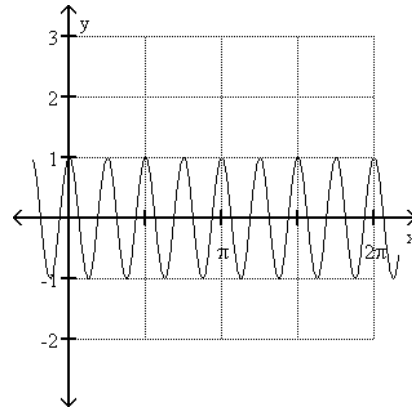
B)



C)



D)



18) Evaluate: $\sqrt{1024 + 3600}$ 18) _____

- A) Not a real number
C) 68

- B) 92
D) 33

19) If $\cos \theta = 0.6$, determine the quadrants in which the terminal side of the angle can lie. 19) _____

- A) II, IV

- B) I, IV

- C) II, III

- D) I, III

- 20) Simplify the expression: $x - [4x + (x - 8)]$ 20) _____
 A) $-4x + 4$ B) $-8x + 8$ C) $-2x + 8$ D) $-2x - 8$

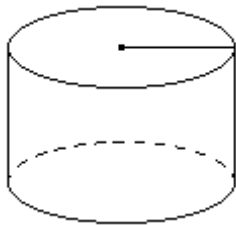
Find the standard deviation. Round to one more place than the data.

- 21) 4, 1, 11, 10, 17, 16, 8, 8, 12 21) _____
 A) 5.5 B) 4.9 C) 5.2 D) 1.2

- 22) Find θ for $0^\circ \leq \theta < 360^\circ$, where $\cos \theta = -0.8382$ 22) _____
 A) $146.95^\circ, 326.95^\circ$ B) $146.95^\circ, 33.05^\circ$ C) $146.95^\circ, 213.05^\circ$ D) $56.95^\circ, 123.05^\circ$

- 23) Convert -141.2° to radian measure. Round to 2 decimal places 23) _____
 A) -2.30 B) -2.45 C) -2.31 D) -2.46

- 24) The formula for finding the volume of a cylinder is $V = \pi r^2 h$, where r is the radius of the base and h is the height. Determine the volume of a cylinder with radius of 4.50 cm and height of 18.0 cm 24) _____



- A) 1160 m^3 B) 1200 m^3 C) 1100 m^3 D) 1150 m^3

- 25) Simplify the following: $\frac{25x}{8(5x+1)} - \frac{1}{8x(5x+1)} + \frac{2}{x}$ 25) _____

- A) $\frac{5(x+3)}{8x}$ B) $\frac{5(x+3)}{40x^2+8x}$
 C) $\frac{25x^2+80x+15}{40x^2+8x}$ D) $\frac{25x^2+80x+15}{8x}$

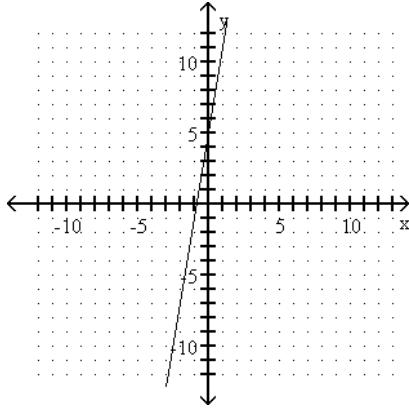
- 26) Find the domain and range of the function: $f(x) = \frac{7}{6-x}$ 26) _____

- A) Domain: All real numbers except 6; range: All real numbers except 0
 B) Domain: All real numbers; Range: All real numbers
 C) Domain: All real numbers; range: All real numbers except 0
 D) Domain: All real numbers except 6; Range: All real numbers

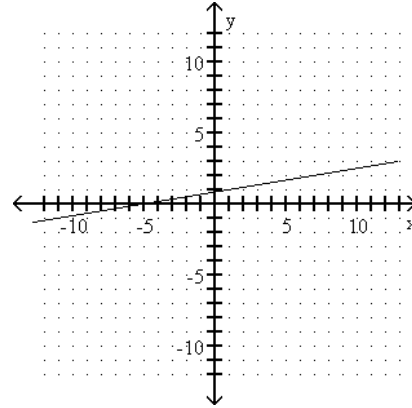
27) Sketch the graph of the line given by the equation: $6y = x - 5$

27) _____

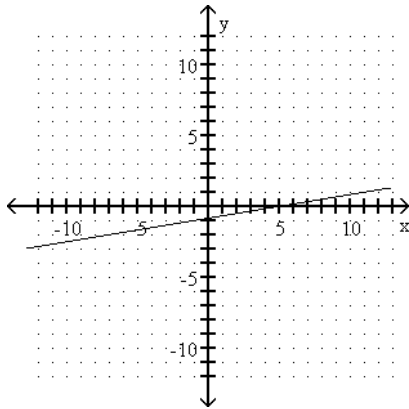
A)



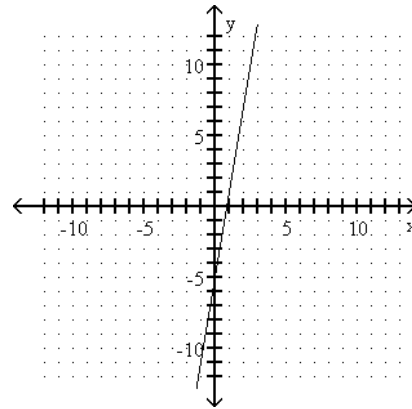
B)



C)



D)



28) Find $f(a + 4)$ when $f(x) = x^2 - 4$

A) $a^2 + 8a + 16$

B) $a^2 + 16$

C) $a^2 + 8a + 12$

D) $a^2 + 0$

28) _____

29) Evaluate the determinant of:

$$\begin{vmatrix} 3 & -b \\ b & -1 \end{vmatrix}$$

A) $-15 + b^2$

B) $15 + b^2$

C) $-15 - b^2$

D) $15 + b^2$

29) _____

30) If the speed of light is 3.00×10^8 m/sec, how long does it take light to travel 2.29×10^{11} m which is the distance from the sun to Mars? Express your answer in scientific notation.

A) 76 sec

B) 7.6×10^3 sec

C) 7.6×10^2 sec

D) 7.6 sec

30) _____

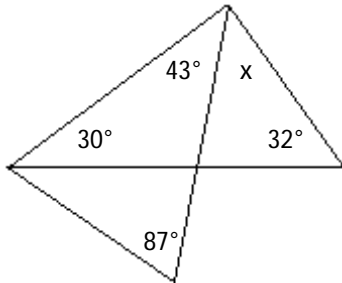
Answer Key

Testname: TEST6

- 1) A
- 2) A
- 3) A
- 4) D
- 5) A
- 6) D
- 7) D
- 8) C
- 9) A
- 10) B
- 11) D
- 12) B
- 13) A
- 14) B
- 15) B
- 16) A
- 17) C
- 18) C
- 19) B
- 20) A
- 21) C
- 22) C
- 23) D
- 24) D
- 25) A
- 26) A
- 27) C
- 28) C
- 29) A
- 30) C

8) Determine the value of x.

8) _____



- A) 57° B) 85° C) 118° D) 75°

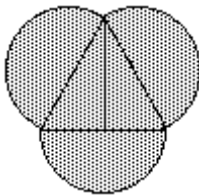
9) Convert 52.6° to radian measure. Round to 2 decimal places

9) _____

- A) 0.92 B) 0.91 C) 0.93 D) 0.90

10) Semicircles are placed on the sides of an equilateral triangle with sides 6.8 ft as shown. Find the shaded area.

10) _____



- A) 129 ft^2 B) 74.5 ft^2 C) 38.2 ft^2 D) 66.0 ft^2

11) Find $f(a + 2)$ when $f(x) = x^2 - 5$

11) _____

- A) $a^2 + 4$ B) $a^2 + 4a - 1$ C) $a^2 - 3$ D) $a^2 + 4a + 4$

12) Find the domain and range of the function: $f(x) = \frac{11}{10 - x}$

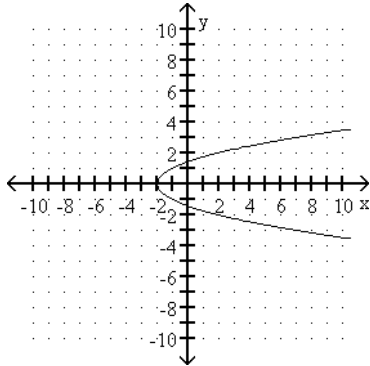
12) _____

- A) Domain: All real numbers; range: All real numbers except 0
 B) Domain: All real numbers; Range: All real numbers
 C) Domain: All real numbers except 10; range: All real numbers except 0
 D) Domain: All real numbers except 10; Range: All real numbers

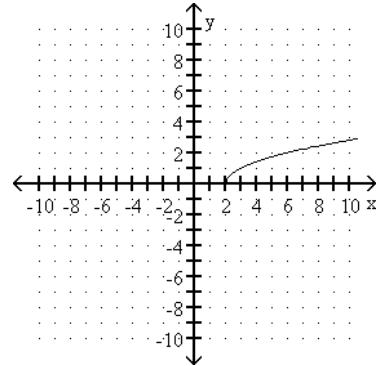
13) Graph the function: $y = \sqrt{x+2}$

13) _____

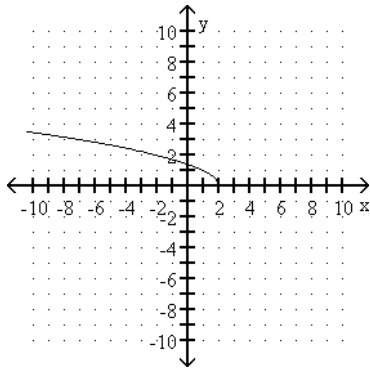
A)



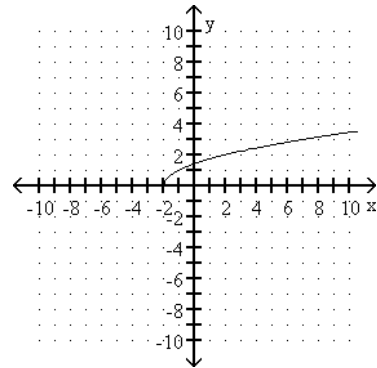
B)



C)



D)



14) If $\cos \theta = \frac{2}{3}$, find $\tan \theta$.

14) _____

A) $\frac{3\sqrt{5}}{5}$

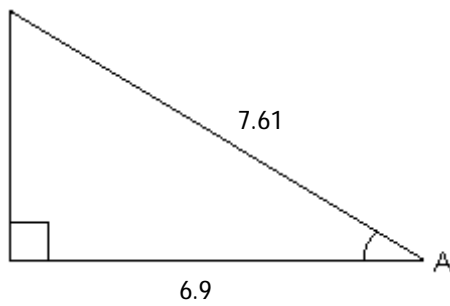
B) $\frac{\sqrt{5}}{3}$

C) $\frac{2\sqrt{5}}{5}$

D) $\frac{\sqrt{5}}{2}$

15) In the following right triangle, find the measure of the angle A in degrees.

15) _____



A) 23.15°

B) 27.05°

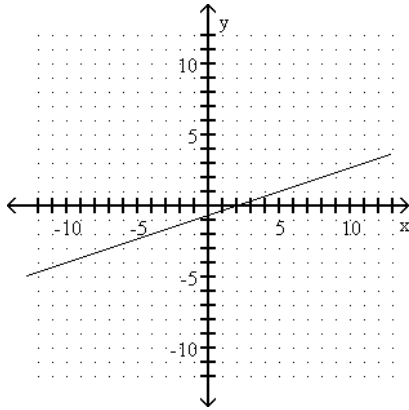
C) 24.95°

D) 65.05°

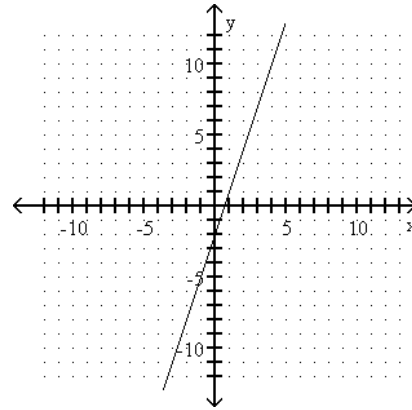
16) Sketch the graph of the line given by the equation: $3y = x - 2$

16) _____

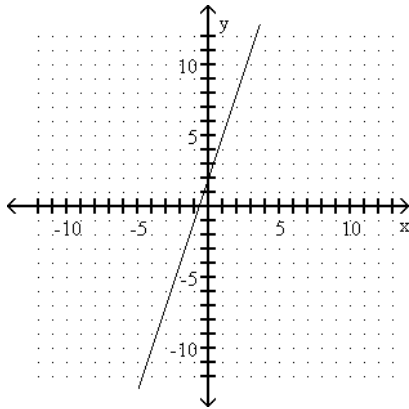
A)



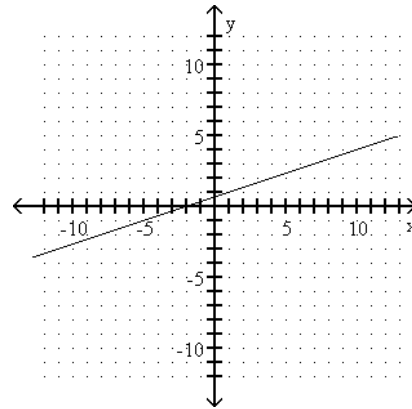
B)



C)



D)



17) Solve the following system of equation:

$$-7x + 5y = 89$$

$$-2x - 3y = -10$$

A) $x = -8, y = 9$

B) $x = -7, y = 8$

C) $x = -7, y = 9$

D) Inconsistent

17) _____

18) Evaluate the determinant of:

$$\begin{vmatrix} a & 3 \\ b & -1 \end{vmatrix}$$

A) $-4b+5a$

B) $-5a + 4b$

C) $-5a - 4b$

D) $-4b -5a$

18) _____

19) Simplify : $(w - 16)^2$

A) $w + 256$

B) $w^2 + 256$

C) $w^2 - 32w + 256$

D) $256w^2 - 32w + 256$

19) _____

20) Sum and simplify the following expression: $\frac{7}{12x} + \frac{1}{3x} - \frac{1}{x}$ 20) _____

- A) $\frac{11}{24x}$ B) $\frac{1}{2x}$ C) 1 D) $\frac{12}{11x}$

21) Simplify : $\frac{b}{b^2 - 25} + \frac{5}{b + 5} - \frac{6}{b}$ 21) _____

- A) $\frac{25(b - 6)}{(b + 5)(b - 5)}$ B) $\frac{25(b + 6)}{b(b + 5)(b - 5)}$
 C) $\frac{6b^2 - 25b + 150}{b(b + 5)(b - 5)}$ D) $\frac{-25(b - 6)}{b(b + 5)(b - 5)}$

22) Solve the equation: $\frac{x}{2} + \frac{x}{8} = 3$ 22) _____

- A) 6.3 B) 6 C) 18 D) 3.15

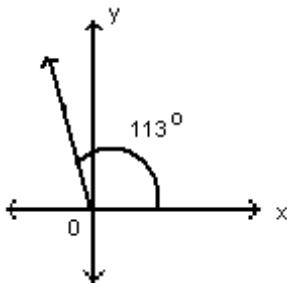
23) Solve the equation: $w = -C \left(\frac{1}{V_2} - \frac{1}{V_1} \right)$ for the variable V_1 23) _____

- A) $V_1 = \frac{CV_2}{w + C}$ B) $V_1 = \frac{CV_2}{C - wV_2}$ C) $V_1 = V_2 - \frac{C}{w}$ D) $V_1 = \frac{CV_2}{C + wV_2}$

24) If $\cos \theta = -0.5$, determine the quadrants in which the terminal side of the angle can lie. 24) _____

- A) II, III B) I, III C) II, IV D) I, IV

25) Find the horizontal and vertical components of the vector shown in the given figure, where the magnitude of the vector is 470. 25) _____



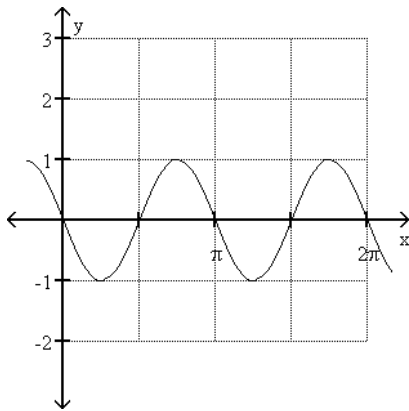
- A) -183.3, 432.4 B) 432.4, -183.3 C) -432.4, 183.3 D) 183.3, -432.4

- 26) Vectors $A=11.8$ and $B = 35.8$ are at right angles. Find the magnitude and direction of the resultant vector R 26) _____
 A) $R = 7.1, \theta = 26.8^\circ$ B) $R = 7.1, \theta = 63.2^\circ$
 C) $R = 38, \theta = 63.2^\circ$ D) $R = 38, \theta = 26.8^\circ$

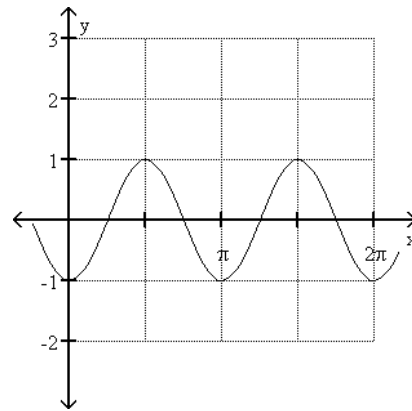
- 27) Find the amplitude and period of $y = 4 \cos (4x + \frac{\pi}{3})$. 27) _____
 A) $5, \frac{\pi}{2}$ B) $4, \pi$ C) $4, 2\pi$ D) $-5, \pi$

- 28) Sketch the graph of the function: $y = -2 \sin (x + \frac{\pi}{4})$ over the interval $0 \leq x \leq 2\pi$. 28) _____

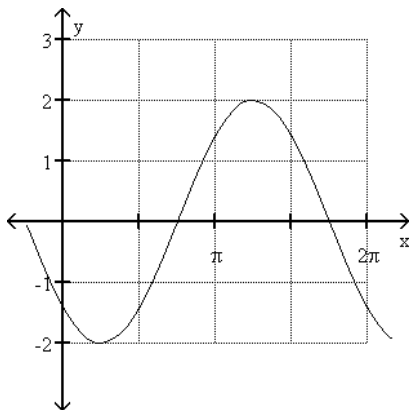
A)



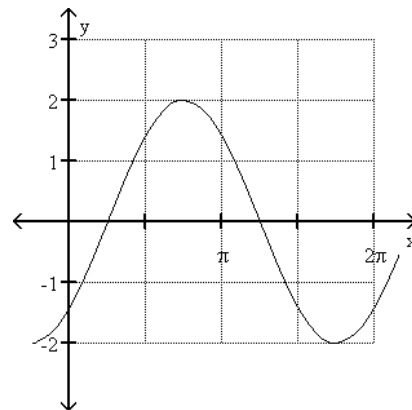
B)



C)



D)



- 29) Solve the following equation in terms of y : $\ln y + 2 \ln x = 1 + \ln 7$ 29) _____
 A) $y = e + 7 - 2x$ B) $y = \frac{7e}{x^2}$ C) $y = \frac{7+1}{x^2}$ D) $y = 8 - 2x$

30) Find the standard deviation. Round to one more place than the data :

9, 13, 13, 5, 10, 10, 7, 19, 16, 17

A) 4.0

B) 4.5

C) 1.3

D) 4.2

30) _____

Answer Key

Testname: TEST7

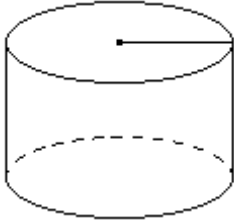
- 1) C
- 2) B
- 3) C
- 4) C
- 5) D
- 6) B
- 7) A
- 8) D
- 9) A
- 10) B
- 11) B
- 12) C
- 13) D
- 14) D
- 15) C
- 16) A
- 17) B
- 18) B
- 19) C
- 20) B
- 21) D
- 22) A
- 23) D
- 24) A
- 25) A
- 26) C
- 27) B
- 28) C
- 29) B
- 30) B

Math Placement Exam

- 1) Find the reciprocal of $-\frac{6}{a}$ 1) _____
 A) $-\frac{a}{6}$ B) $\frac{6}{a}$ C) 1 D) $-\frac{6}{a}$
- 2) Find the value of $\frac{0}{6}$ 2) _____
 A) 86 B) Undefined C) 1 D) 0
- 3) Solve the equation: $\frac{x}{3} - \frac{x}{7} = 3$ 3) _____
 A) 18 B) $\frac{63}{4}$ C) $\frac{4}{63}$ D) 15
- 4) Solve the equation: $\frac{1}{2}(8x - 10) = \frac{1}{3}(15x - 12)$ 4) _____
 A) -1 B) -20 C) 1 D) $\frac{1}{20}$
- 5) Simplify the expression: $x - [9x + (x - 4)]$ 5) _____
 A) $-7x - 4$ B) $-9x + 4$ C) $-7x + 4$ D) $-4x + 4$
- 6) Simplify: $(w - 4)^2$ 6) _____
 A) $4w^2 - 8w + 16$ B) $w + 16$ C) $w^2 - 8w + 16$ D) $w^2 + 16$
- 7) Determine the number of significant digits in the following approximate number: 0.07 7) _____
 A) 3 B) 2 C) 4 D) 1

- 8) The formula for finding the volume of a cylinder is $V = \pi r^2 h$, where r is the radius of the base and h is the height. Determine the volume of a cylinder with radius of 4.50 cm and height of 18.0 cm

8) _____

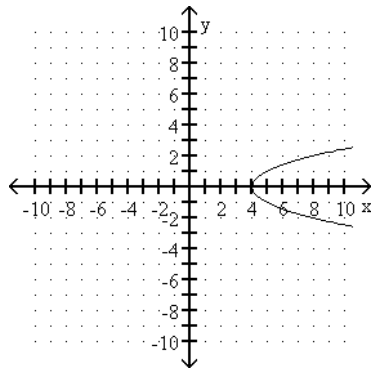


- A) 1100 cm³ B) 1200 cm³ C) 1150 cm³ D) 1160 cm³
- 9) Evaluate: $\sqrt{64 + 225}$ 9) _____
 A) 33 B) 17
 C) Not a real number D) 23
- 10) Find the supplement angle of 12°. 10) _____
 A) 78° B) 258° C) 168° D) 348°
- 11) Find $f(a + 2)$ when $f(x) = x^2 + 1$ 11) _____
 A) $a^2 + 3$ B) $a^2 + 4a + 5$ C) $a^2 + 4a + 4$ D) $a^2 + 4$
- 12) Convert 71.7° to radian measure. Round to 2 decimal places 12) _____
 A) 1.25 B) 1.22 C) 1.23 D) 1.26
- 13) Express the number 2.42×10^{-4} in standard notation 13) _____
 A) 0.00242 B) 0.000242 C) 0.0000242 D) -242,000
- 14) If the speed of light is 3.00×10^8 m/sec, how long does it take light to travel 2.29×10^{11} m which is the distance from the sun to Mars? Express your answer in scientific notation. 14) _____
 A) 7.6 sec B) 7.6×10^2 sec C) 7.6×10^3 sec D) 76 sec
- 15) Find the domain and range of the function: $f(x) = \frac{6}{6 - x}$ 15) _____
 A) Domain: All real numbers; range: All real numbers except 0
 B) Domain: All real numbers except 6; Range: All real numbers
 C) Domain: All real numbers except 6; range: All real numbers except 0
 D) Domain: All real numbers; Range: All real numbers

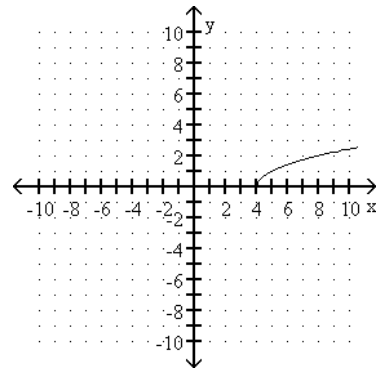
16) Graph the function: $y = \sqrt{x - 4}$

16) _____

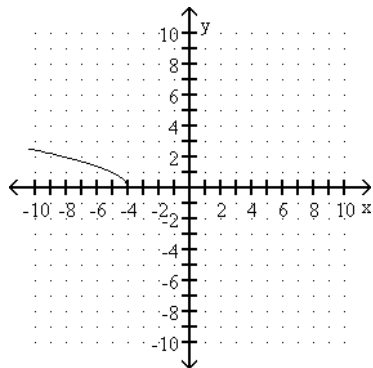
A)



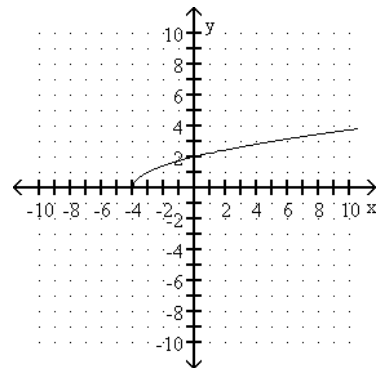
B)



C)



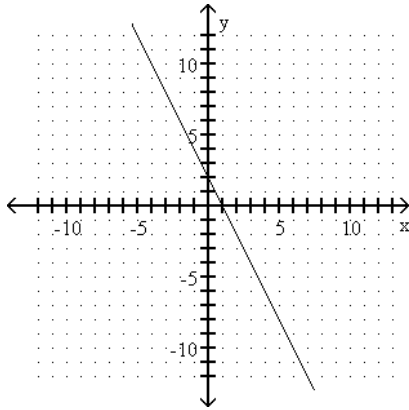
D)



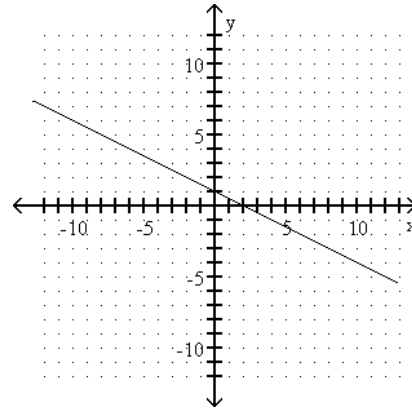
17) Sketch the graph of the line given by the equation: $-2y = x - 2$

17) _____

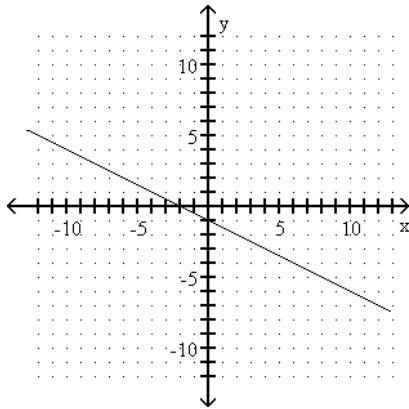
A)



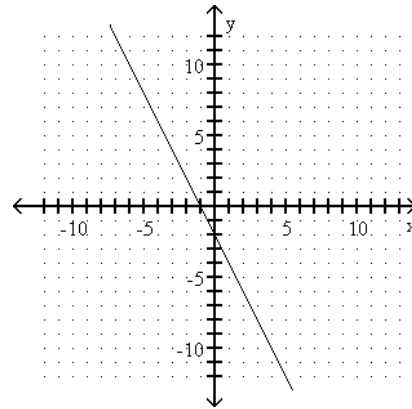
B)



C)



D)



18) Solve the following system of equation:

$$-5x + 9y = -71$$

$$-2x + 2y = -22$$

18) _____

A) $x = 6, y = -3$

B) $x = 7, y = -3$

C) $x = 7, y = -4$

D) Inconsistent

19) Evaluate the determinant of:

$$\begin{vmatrix} 3 & -b \\ b & -5 \end{vmatrix}$$

19) _____

A) $-15 - b^2$

B) $-15 + b^2$

C) $15 + b^2$

D) $15 + b^2$

20) If $\cos \theta = \frac{4}{5}$, find $\tan \theta$.

20) _____

A) $\frac{3}{4}$

B) $\frac{-3}{5}$

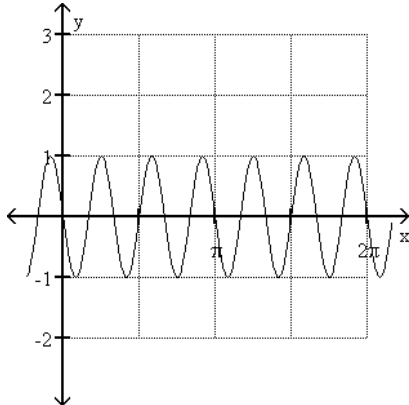
C) $\frac{5}{4}$

D) $\frac{3}{5}$

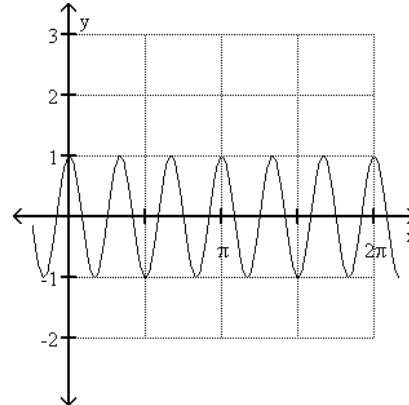
26) Sketch the graph of the function: $y = 3 \cos(2x - \frac{\pi}{2})$ over the interval $0 \leq x \leq 2\pi$.

26) _____

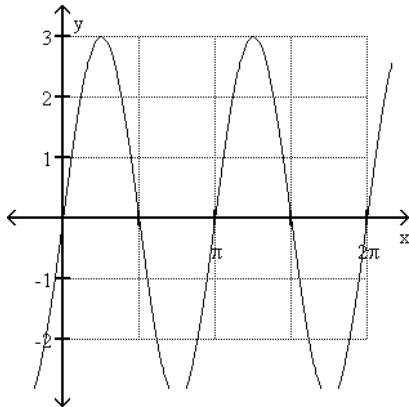
A)



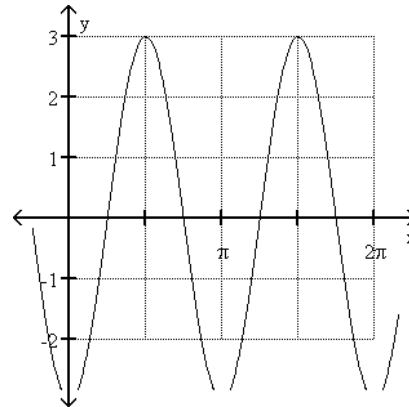
B)



C)



D)



27) Simplify the following: $\frac{16x}{9(4x+1)} - \frac{1}{9x(4x+1)} + \frac{1}{x}$

27) _____

A) $\frac{4(x+2)}{9x}$

B) $\frac{16x^2 + 36x + 8}{9x}$

C) $\frac{16x^2 + 36x + 8}{36x^2 + 9x}$

D) $\frac{4(x+2)}{36x^2 + 9x}$

28) Find θ for $0^\circ \leq \theta < 360^\circ$, where $\cos \theta = 0.0305$

28) _____

A) $88.25^\circ, 271.75^\circ$

B) $1.75^\circ, 181.75^\circ$

C) $88.25^\circ, 268.25^\circ$

D) $88.25^\circ, 91.75^\circ$

29) Solve the equation for y : $\ln y + 10 \ln x = 1 + \ln 3$

A) $y = \frac{3 + 1}{x^{10}}$

B) $y = \frac{3e}{x^{10}}$

C) $y = 4 - 10x$

D) $y = e + 3 - 10x$

29) _____

Find the standard deviation. Round to one more place than the data.

30) 5, 4, 7, 6, 5, 13, 12, 18, 9

A) 5.0

B) 4.7

C) 1.1

D) 4.4

30) _____

Answer Key

Testname: TEST8

- 1) A
- 2) D
- 3) B
- 4) A
- 5) B
- 6) C
- 7) D
- 8) C
- 9) B
- 10) C
- 11) B
- 12) A
- 13) B
- 14) B
- 15) C
- 16) B
- 17) B
- 18) C
- 19) B
- 20) A
- 21) C
- 22) C
- 23) A
- 24) B
- 25) A
- 26) C
- 27) A
- 28) A
- 29) B
- 30) B

Math Placement Exam

1) Identify the rational numbers in the following list:

1) _____

$$10, \sqrt{7}, -5, 0, \frac{0}{8}, \sqrt{25}, 0.46$$

A) $10, -5, 0, \frac{0}{8}, \sqrt{25}, 0.46$

B) $10, -5, 0, \frac{0}{8}, \sqrt{25}$

C) $10, -5, 0, \frac{0}{8}$

D) $\frac{0}{8}$

2) Find the absolute value of $|-5.6|$

2) _____

A) ± 5.6

B) 0

C) -5.6

D) 5.6

3) Find the reciprocal of $-\frac{9}{4}$

3) _____

A) 1

B) $\frac{9}{4}$

C) $-\frac{4}{9}$

D) $\frac{4}{9}$

4) Simplify: $(2xy)^{-5}$

4) _____

A) $32x^5y^5$

B) $\frac{x^5y^5}{32}$

C) $\frac{32}{x^5y^5}$

D) $\frac{1}{32x^5y^5}$

5) Evaluate: $\sqrt{1024 + 3600}$

5) _____

A) Not a real number

B) 92

C) 68

D) 33

6) Perform the following operation: $(5a^5 + 2a^3) + (7a^5 + 4a^3)$

6) _____

A) $18a^{16}$

B) $12a^5 + 6a^3$

C) $18a^8$

D) $12a^{10} + 6a^6$

7) Solve the equation: $F = \frac{9}{5}C + 32$, for C

7) _____

A) $C = \frac{9}{5}(F - 32)$

B) $C = \frac{5}{F - 32}$

C) $C = \frac{F - 32}{9}$

D) $C = \frac{5}{9}(F - 32)$

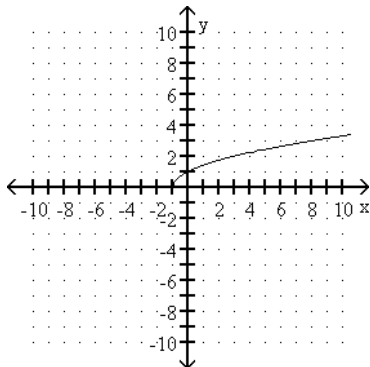
8) Convert -293.4° to radian measure. Round to 2 decimal places
 A) -4.83 B) -5.11 C) -4.82 D) -5.12 8) _____

9) Find $f(a - 3)$ when $f(x) = x^2 - 4$
 A) $a^2 + 9$ B) $a^2 - 6a + 5$ C) $a^2 - 7$ D) $a^2 - 6a + 9$ 9) _____

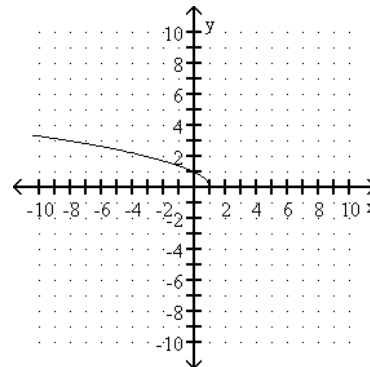
10) Find the domain and range of the function: $f(x) = \frac{9}{11 - x}$ 10) _____
 A) Domain: All real numbers except 11; range: All real numbers except 0
 B) Domain: All real numbers except 11; Range: All real numbers
 C) Domain: All real numbers; Range: All real numbers
 D) Domain: All real numbers; range: All real numbers except 0

11) Graph the function: $y = \sqrt{x + 1}$ 11) _____

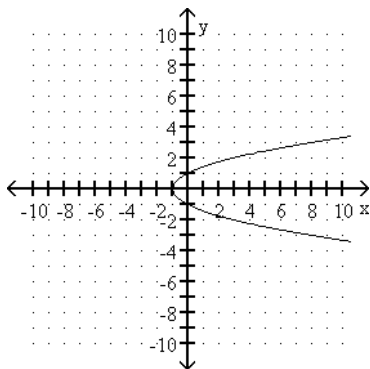
A)



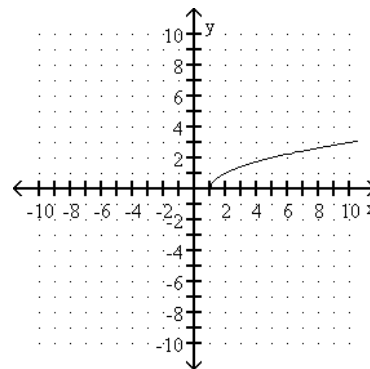
B)



C)



D)



12) If $\cos \theta = \frac{7}{12}$, find $\tan \theta$.

12) _____

A) $\frac{\sqrt{95}}{7}$

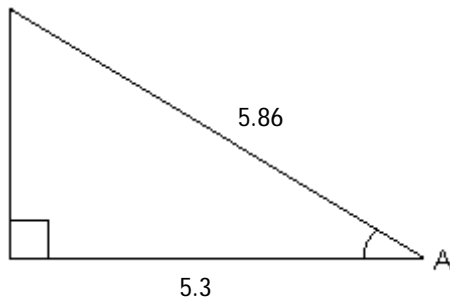
B) $\frac{12\sqrt{95}}{95}$

C) $\frac{7\sqrt{95}}{95}$

D) $\frac{\sqrt{95}}{12}$

13) In the following right triangle, find the measure of the angle A in degrees.

13) _____



A) 64.75°

B) 27.35°

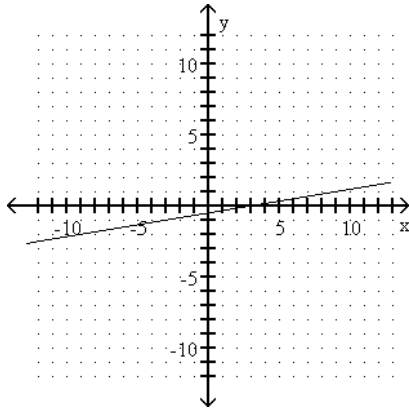
C) 23.45°

D) 25.25°

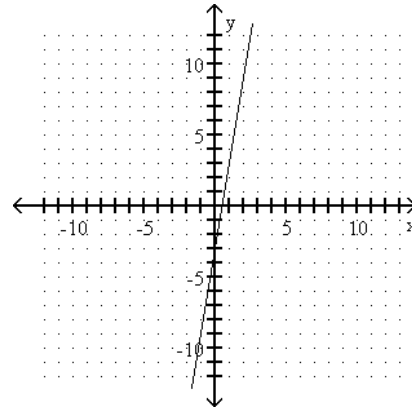
14) Sketch the graph of the line given by the equation: $6y = x - 3$

14) _____

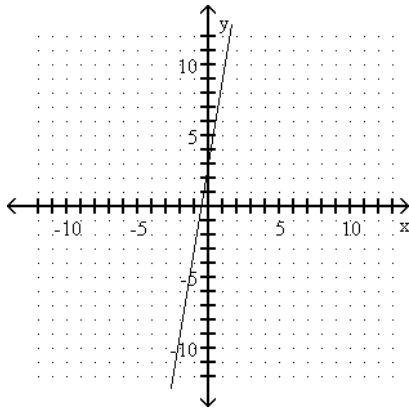
A)



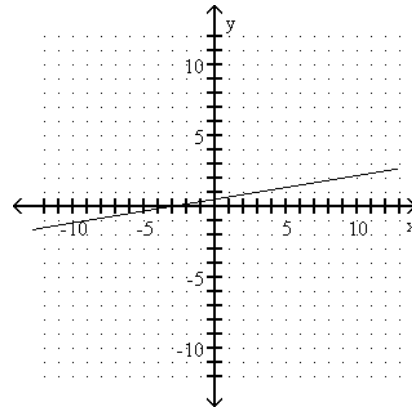
B)



C)



D)



15) Solve the following system of equation:

$$7x + 6y = 44$$

$$3x + 4y = 26$$

A) $x = 2, y = 6$

B) $x = 1, y = 6$

C) $x = 2, y = 5$

D) Inconsistent

15) _____

16) Evaluate the determinant of:

$$\begin{vmatrix} a & -8 \\ b & 8 \end{vmatrix}$$

A) $-5a - 4b$

B) $-4b - 5a$

C) $-4b + 5a$

D) $-5a + 4b$

16) _____

17) Simplify: $(w - 6)^2$

A) $w^2 + 36$

B) $36w^2 - 12w + 36$

C) $w + 36$

D) $w^2 - 12w + 36$

17) _____

18) Sum and simplify the following expression: $\frac{1}{2x} + \frac{1}{3x} - \frac{1}{x}$ 18) _____

- A) $\frac{10}{24x}$ B) $\frac{6}{5x}$ C) $\frac{1}{2x}$ D) 1

19) Simplify : $\frac{b}{b^2 - 25} + \frac{5}{b + 5} - \frac{6}{b}$ 19) _____

- A) $\frac{25(b + 6)}{b(b + 5)(b - 5)}$ B) $\frac{25(b - 6)}{(b + 5)(b - 5)}$
 C) $\frac{6b^2 - 25b + 150}{b(b + 5)(b - 5)}$ D) $\frac{-25(b - 6)}{b(b + 5)(b - 5)}$

20) Solve the equation: $\frac{x}{3} + \frac{x}{8} = 3$ 20) _____

- A) 18 B) 6 C) 6.3 D) 3.15

21) Solve the equation: $w = -C \left(\frac{1}{V_2} - \frac{1}{V_1} \right)$ for the variable V_1 21) _____

- A) $V_1 = \frac{CV_2}{w + C}$ B) $V_1 = V_2 - \frac{C}{w}$ C) $V_1 = \frac{CV_2}{C + wV_2}$ D) $V_1 = \frac{CV_2}{C - wV_2}$

22) Solve: $3(p + 2)^2 - 20 = -11(p + 2)$ 22) _____

- A) $-\frac{10}{3}, 3$ B) $-\frac{2}{3}, -7$ C) $\frac{4}{3}, -5$ D) $-\frac{11}{3}, 2$

23) Solve: $x^2 + x + 5 = 0$ 23) _____

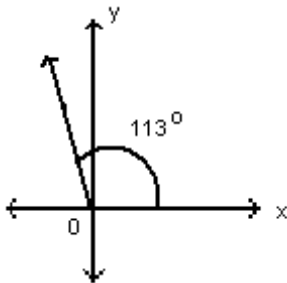
- A) $\frac{1 \pm \sqrt{19}}{2}$ B) $\frac{-1 \pm \sqrt{-19}}{2}$ C) $\frac{1 \pm \sqrt{-19}}{2}$ D) $\frac{-1 \pm \sqrt{19}}{2}$

24) If $\cos \theta = -0.3$, determine the quadrants in which the terminal side of the angle can lie. 24) _____

- A) I, III B) II, III C) II, IV D) I, IV

- 25) Find the horizontal and vertical components of the vector shown in the given figure, where the magnitude of the vector is 398.

25) _____



- A) 155.2, -366.2 B) -155.2, 366.2 C) 366.2, -155.2 D) -366.2, 155.2

- 26) Vectors $A=11.8$ and $B = 35.8$ are at right angles. Find the magnitude and direction of the resultant vector R

26) _____

- A) $R = 38.1, \theta = 17.6^\circ$ B) $R = 6.9, \theta = 72.4^\circ$
 C) $R = 6.9, \theta = 17.6^\circ$ D) $R = 38.1, \theta = 72.4^\circ$

- 27) Find the amplitude and period of $y = 5 \cos (2x + \frac{\pi}{3})$.

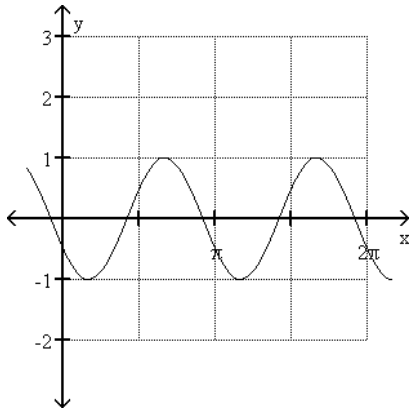
27) _____

- A) $2, 2\pi$ B) $5, \pi$ C) $5, \frac{\pi}{2}$ D) $-5, \pi$

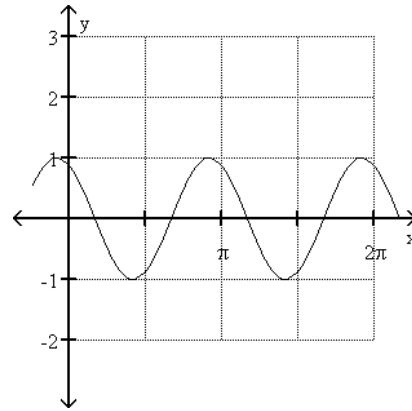
28) Sketch the graph of the function: $y = 2 \sin \left(x + \frac{\pi}{3}\right)$ over the interval $0 \leq x \leq 2\pi$.

28) _____

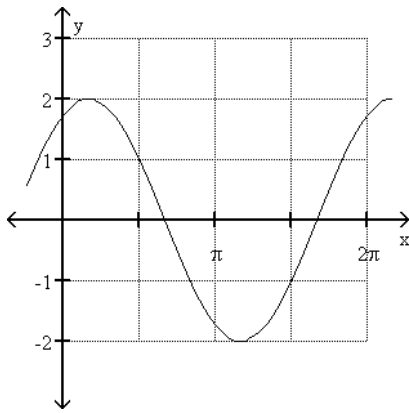
A)



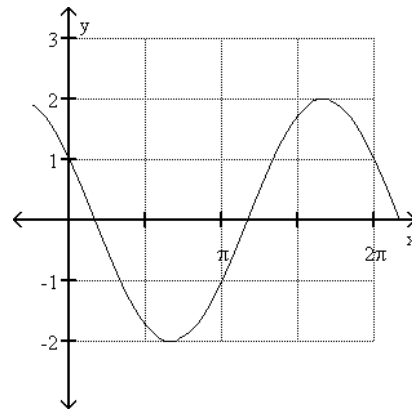
B)



C)



D)



29) Solve the following equation in terms of y : $\ln y + 4 \ln x = 1 + \ln 8$

29) _____

A) $y = e + 8 - 4x$

B) $y = \frac{8e}{x^4}$

C) $y = 9 - 4x$

D) $y = \frac{8+1}{x^4}$

30) Find the standard deviation. Round to one more place than the data :

30) _____

10, 9, 12, 15, 16, 5, 9, 20, 11, 23

A) 1.4

B) 5.5

C) 5.1

D) 5.0

Answer Key

Testname: TEST9

- 1) A
- 2) D
- 3) C
- 4) D
- 5) C
- 6) B
- 7) D
- 8) D
- 9) B
- 10) A
- 11) A
- 12) A
- 13) D
- 14) A
- 15) C
- 16) D
- 17) D
- 18) C
- 19) D
- 20) C
- 21) C
- 22) B
- 23) B
- 24) B
- 25) B
- 26) D
- 27) B
- 28) C
- 29) B
- 30) B

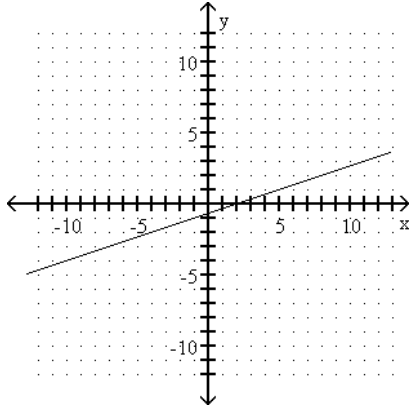
Math Placement Exam

- 1) Evaluate: $\sqrt{256 + 900}$ 1) _____
A) 33 B) Not a real number
C) 46 D) 34
- 2) Find θ for $0^\circ \leq \theta < 360^\circ$, where $\cos \theta = -0.0015$ 2) _____
A) $0.09^\circ, 179.91^\circ$ B) $90.09^\circ, 269.91^\circ$ C) $90.09^\circ, 270.09^\circ$ D) $90.09^\circ, 89.91^\circ$
- 3) Solve the equation: $\frac{1}{5}(10x - 20) = \frac{1}{2}(8x - 4)$ 3) _____
A) $\frac{1}{8}$ B) -1 C) -8 D) 1
- 4) Solve the equation: $\frac{x}{2} - \frac{x}{9} = 3$ 4) _____
A) $\frac{63}{4}$ B) 18 C) $\frac{4}{63}$ D) 15
- 5) Find the value of $\frac{0}{6}$ 5) _____
A) Undefined B) 1 C) 0 D) 4
- 6) Simplify: $(w - 4)^2$ 6) _____
A) $w^2 + 16$ B) $4w^2 - 8w + 16$ C) $w^2 - 8w + 16$ D) $w + 16$

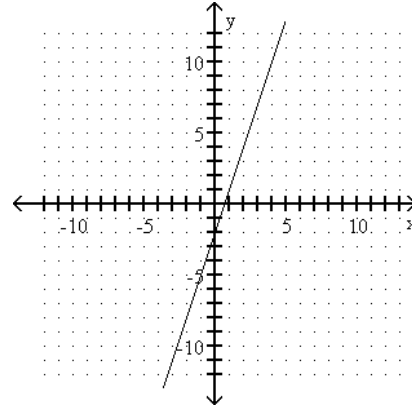
7) Sketch the graph of the line given by the equation: $3y = x - 2$

7) _____

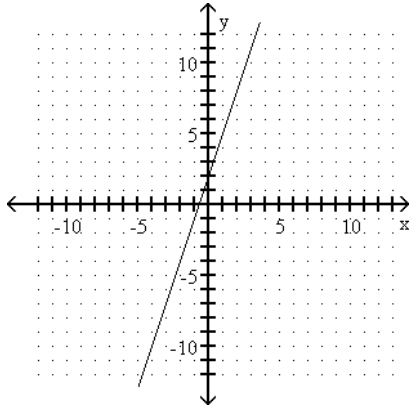
A)



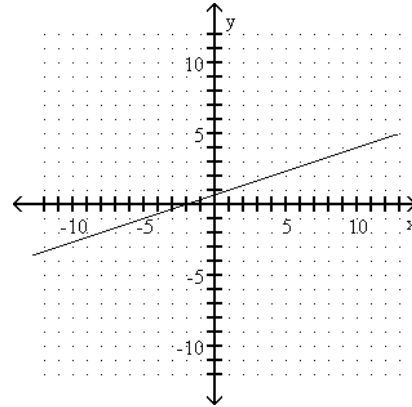
B)



C)



D)



8) Determine the number of significant digits in the following approximate number: 0.07

8) _____

A) 4

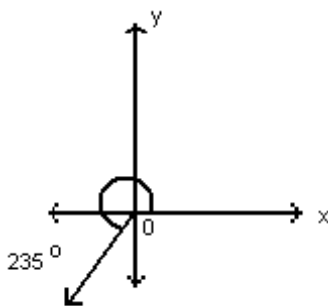
B) 3

C) 2

D) 1

9) Find the horizontal and vertical components of the vector shown in the given figure, where the magnitude of the vector is 430.

9) _____



A) -246.6, -352.2

B) -352.2, -246.6

C) 246.6, 352.2

D) 352.2, 246.6

10) Simplify the following: $\frac{49x}{8(7x+1)} - \frac{1}{8x(7x+1)} + \frac{1}{x}$ 10) _____

A) $\frac{49x^2 + 56x + 7}{8x}$

B) $\frac{7(x+1)}{56x^2 + 8x}$

C) $\frac{49x^2 + 56x + 7}{56x^2 + 8x}$

D) $\frac{7(x+1)}{8x}$

11) Find the domain and range of the function: $f(x) = \frac{7}{16-x}$ 11) _____

A) Domain: All real numbers except 16; Range: All real numbers

B) Domain: All real numbers; Range: All real numbers

C) Domain: All real numbers; range: All real numbers except 0

D) Domain: All real numbers except 16; range: All real numbers except 0

12) Simplify the expression: $x - [8x + (x - 3)]$ 12) _____

A) $-8x + 4$

B) $-6x - 3$

C) $-3x + 3$

D) $-6x + 3$

13) If $\cos \theta = \frac{4}{5}$, find $\tan \theta$. 13) _____

A) $\frac{3}{4}$

B) $\frac{3}{5}$

C) $\frac{5}{4}$

D) $\frac{-3}{5}$

14) Find the reciprocal of $-\frac{5}{a}$ 14) _____

A) $-\frac{a}{5}$

B) 1

C) $\frac{-6}{a}$

D) $\frac{5}{a}$

15) Evaluate the determinant of: 15) _____

$$\begin{vmatrix} 3 & -b \\ b & -2 \end{vmatrix}$$

A) $15 + b^2$

B) $-15 - b^2$

C) $15 + b^2$

D) $-15 + b^2$

16) Find $f(a - 4)$ when $f(x) = x^2 - 5$ 16) _____

A) $a^2 - 9$

B) $a^2 + 16$

C) $a^2 - 8a + 11$

D) $a^2 - 8a + 16$

Find the standard deviation. Round to one more place than the data.

17) 5, 2, 16, 18, 8, 14, 15, 19, 17

A) 5.8

B) 1.6

C) 6.1

D) 6.5

17) _____

18) Solve the following system of equation:

$$4x + 9y = 51$$

$$-2x + 4y = 34$$

A) $x = -3, y = 7$

B) $x = -4, y = 8$

C) $x = -3, y = 8$

D) Inconsistent

18) _____

19) Solve the equation: $w = -C \left(\frac{1}{V_2} - \frac{1}{V_1} \right)$ for the variable V_1

A) $V_1 = \frac{CV_2}{C+wV_2}$

B) $V_1 = \frac{CV_2}{C - wV_2}$

C) $V_1 = V_2 - \frac{C}{w}$

D) $V_1 = \frac{CV_2}{w+C}$

19) _____

20) If $\cos \theta = 0.2$, determine the quadrants in which the terminal side of the angle can lie.

A) I, III

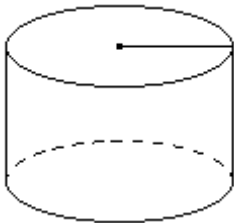
B) II, IV

C) II, III

D) I, IV

20) _____

21) The formula for finding the volume of a cylinder is $V = \pi r^2 h$, where r is the radius of the base and h is the height. Determine the volume of a cylinder with radius of 4.50 cm and height of 18.0 cm



A) 1150 yd^3

B) 1160 yd^3

C) 1200 yd^3

D) 1100 yd^3

21) _____

22) Solve the equation for y : $\ln y + 5 \ln x = 1 + \ln 6$

A) $y = \frac{6+1}{x^5}$

B) $y = 7 - 5x$

C) $y = e + 6 - 5x$

D) $y = \frac{6e}{x^5}$

22) _____

23) If the speed of light is 3.00×10^8 m/sec, how long does it take light to travel 2.29×10^{11} m which is the distance from the sun to Mars? Express your answer in scientific notation.

A) 7.6×10^2 sec

B) 76 sec

C) 7.6×10^3 sec

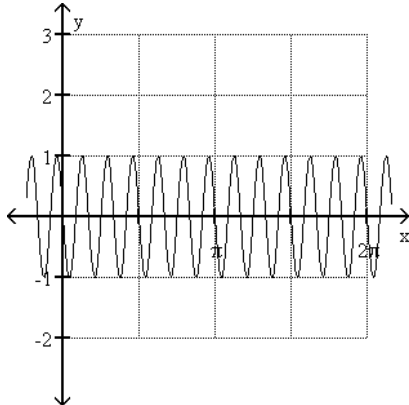
D) 7.6 sec

23) _____

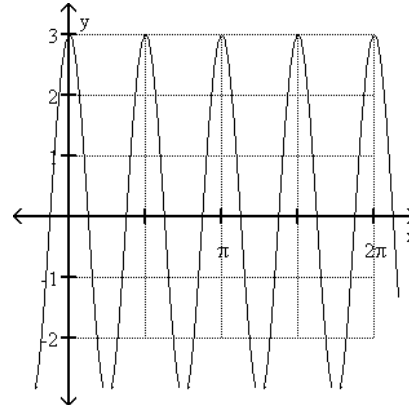
24) Sketch the graph of the function: $y = -3 \cos(4x - \frac{\pi}{2})$ over the interval $0 \leq x \leq 2\pi$.

24) _____

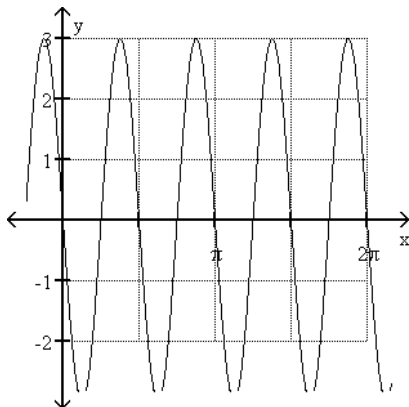
A)



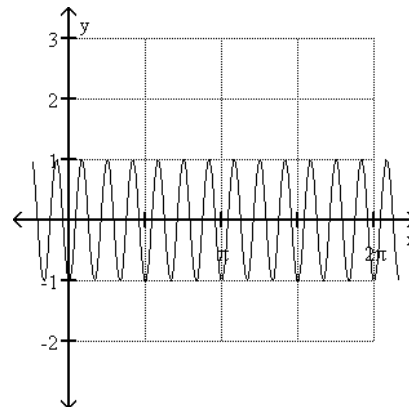
B)



C)



D)



25) Simplify the following expression: $\frac{1}{4x} - \frac{5}{8x} - \frac{1}{x}$

25) _____

A) $\frac{2}{10x}$

B) 1

C) $-\frac{2}{5x}$

D) $\frac{1}{2x}$

26) Find the supplement angle of 18° .

26) _____

A) 342°

B) 72°

C) 162°

D) 252°

27) Convert -221.2° to radian measure. Round to 2 decimal places

27) _____

A) -3.85

B) -3.63

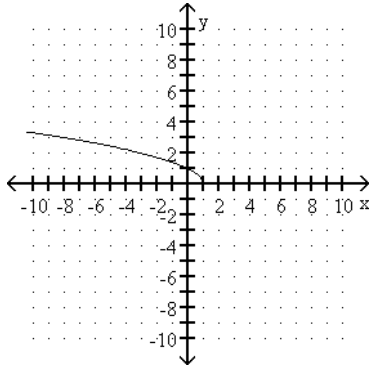
C) -3.64

D) -3.86

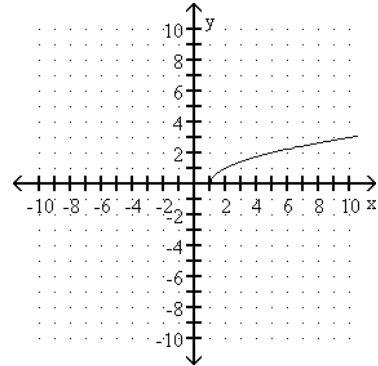
28) Graph the function: $y = \sqrt{x+1}$

28) _____

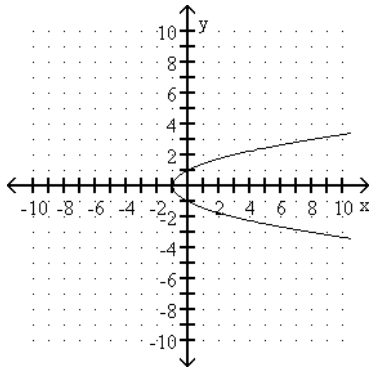
A)



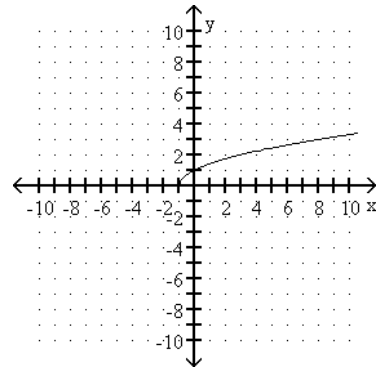
B)



C)



D)



29) Express the number 2.13×10^{-4} in standard notation

29) _____

A) 0.0000213

B) 0.000213

C) -213,000

D) 0.00213

30) Find the amplitude and period of $y = 5 \cos(x + \frac{\pi}{2})$.

30) _____

A) 2, 2π

B) 5, $\frac{\pi}{2}$

C) -5, π

D) 4, 2π

Answer Key

Testname: TEST10

- 1) D
- 2) B
- 3) B
- 4) A
- 5) C
- 6) C
- 7) A
- 8) D
- 9) A
- 10) D
- 11) D
- 12) A
- 13) A
- 14) A
- 15) D
- 16) C
- 17) C
- 18) A
- 19) A
- 20) D
- 21) A
- 22) D
- 23) A
- 24) C
- 25) C
- 26) C
- 27) D
- 28) D
- 29) B
- 30) A