

Exam

Name \_\_\_\_\_

review for math0410 practice 04041700aafm041024350m

**MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.**

**Simplify.**

1)  $\frac{193 + 7}{3^2 - 4}$  1) \_\_\_\_\_

- A) 40                      B) 100                      C) 60                      D) 38

Answer: A

Objective: (1.7) Use Order of Operations

**Solve the equation.**

2)  $f + 1 = -2$  2) \_\_\_\_\_

- A) -3                      B) 3                      C) -1                      D) 1

Answer: A

Objective: (2.6) Use the Addition Property of Equality to Solve Equations

**Simplify the expression.**

3)  $2(4x + 2) + 3(x + 4)$  3) \_\_\_\_\_

- A)  $11x + 16$                       B)  $11x + 6$                       C)  $14x + 16$                       D)  $24x$

Answer: A

Objective: (3.1) Simplify Expressions by Multiplying and Then Combining Like Terms

**Solve the equation.**

4)  $5x + 4 = 49$  4) \_\_\_\_\_

- A) 9                      B) 40                      C) 44                      D) 5

Answer: A

Objective: (3.2) Use Both Properties to Solve Equations

5)  $2(5x - 2) = 8x$  5) \_\_\_\_\_

- A) 2                      B) -2                      C) -1                      D) 1

Answer: A

Objective: (3.2) Use Both Properties to Solve Equations

6)  $5x - 6 = 2x - 30$  6) \_\_\_\_\_

- A) -8                      B) 8                      C) -10                      D) 10

Answer: A

Objective: (3.3) Solve Linear Equations Using the Addition and Multiplication Properties

Solve.

7)  $\frac{x}{5} = \frac{x}{6} + \frac{2}{5}$

7) \_\_\_\_\_

A) 12

B)  $-\frac{2}{5}$

C) 0

D)  $\frac{1}{12}$

Answer: A

Objective: (4.8) Solve Equations Containing Fractions

Solve the equation.

8)  $1.1x + 4.3 = 0.7x + 1.14$

8) \_\_\_\_\_

A) -7.9

B) -7.8

C) 0.127

D) -7.11

Answer: A

Objective: (5.6) Solve Equations Containing Decimals

Find the median. If necessary, round to one decimal place.

9) 4, 6, 25, 23, 43, 47

9) \_\_\_\_\_

A) 24

B) 23

C) 21.5

D) 25

Answer: A

Objective: (5.7) Find the Median of a List of Numbers

Translate an equation and solve.

10) 19 is 4% of what number?

10) \_\_\_\_\_

A) 475

B) 4750

C) 47.5

D) 76

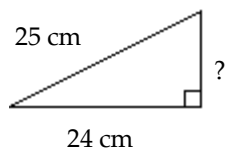
Answer: A

Objective: (6.3) Solve Percent Problems

Find the unknown length in the right triangle. If necessary, approximate the length to the nearest thousandth.

11)

11) \_\_\_\_\_



A) 7 cm

B) 1 cm

C) 9.322 cm

D) 3.678 cm

Answer: A

Objective: (7.3) Use the Pythagorean Theorem

Find the probability of the event if a single choice is made from a bag.

12) A bag contains 7 red marbles, 2 blue marbles, and 1 green marble. What is the probability of choosing a marble that is not blue when one marble is drawn from the bag?

12) \_\_\_\_\_

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

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

C)  $\frac{1}{5}$

D) 8

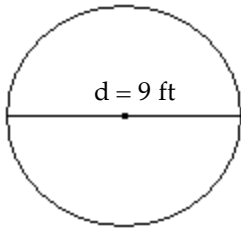
Answer: A

Objective: (7.5) Find the Probability of an Event

Find the area of the geometric figure.

13)

13) \_\_\_\_\_



Use 3.14 for  $\pi$ .

A) 63.585 sq ft

B) 254.34 sq ft

C) 127.17 sq ft

D) 56.52 sq ft

Answer: A

Objective: (8.3) Find the Area of Plane Regions

Solve the equation.

14)  $8x - (4x - 1) = 2$

14) \_\_\_\_\_

A)  $\frac{1}{4}$

B)  $\frac{1}{12}$

C)  $-\frac{1}{4}$

D)  $-\frac{1}{12}$

Answer: A

Objective: (9.3) Apply the General Strategy for Solving a Linear Equation

15)  $\frac{5}{6}x + \frac{4}{3} = \frac{2}{3}x$

15) \_\_\_\_\_

A) -8

B) 8

C) -12

D) 12

Answer: A

Objective: (9.3) Solve Equations Containing Fractions or Decimals

16)  $9x + 5 - 9x - 5 = 6x - 6x - 3$

16) \_\_\_\_\_

A) 0

B) -288

C) all real numbers

D) no solution

Answer: D

Objective: (9.3) Recognize Identities and Equations with No Solution

17)  $2(x + 5) = (2x + 10)$

17) \_\_\_\_\_

A) 20

B) 0

C) all real numbers

D) no solution

Answer: C

Objective: (9.3) Recognize Identities and Equations with No Solution

Solve the equation for the indicated variable.

18)  $A = P + PRT$  for T

18) \_\_\_\_\_

A)  $T = \frac{A - P}{PR}$

B)  $T = \frac{P - A}{PR}$

C)  $T = \frac{A}{R}$

D)  $T = \frac{PR}{A - P}$

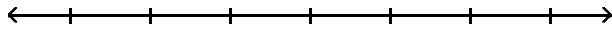
Answer: A

Objective: (9.5) Solve a Formula or Equation for One of Its Variables

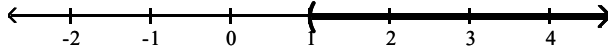
Solve the inequality. Graph the solution set and write it in interval notation.

19)  $21x + 9 > 3(6x + 4)$

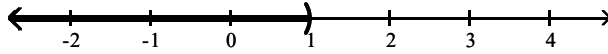
19) \_\_\_\_\_



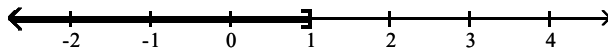
A)  $(1, \infty)$



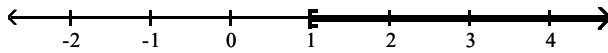
B)  $(-\infty, 1)$



C)  $(-\infty, 1]$



D)  $[1, \infty)$



Answer: A

Objective: (9.6) Use Both Properties to Solve Inequalities

Determine whether the ordered pair is a solution of the given linear equation.

20)  $-2y + 3x = -15$ ;  $(5, 0)$

20) \_\_\_\_\_

A) no

B) yes

Answer: A

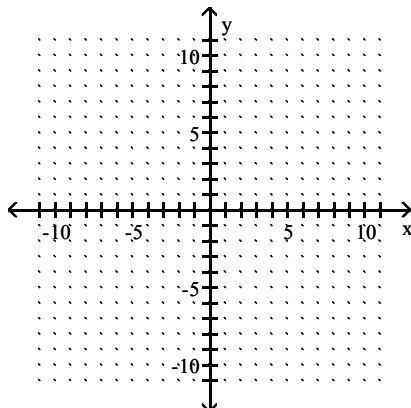
Objective: (10.1) Determine whether an ordered pair is a solution of an equation in two variables.

Find three ordered pair solutions by completing the table. Then use the ordered pairs to graph the equation.

21)  $y = 2x + 4$

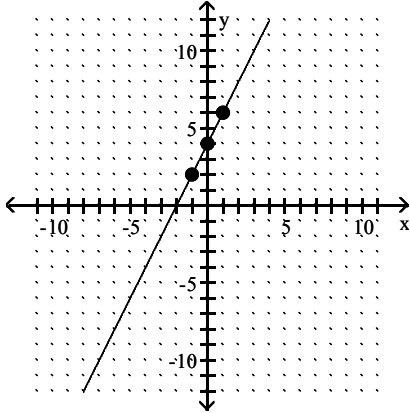
21) \_\_\_\_\_

x	y
0	
1	
-1	



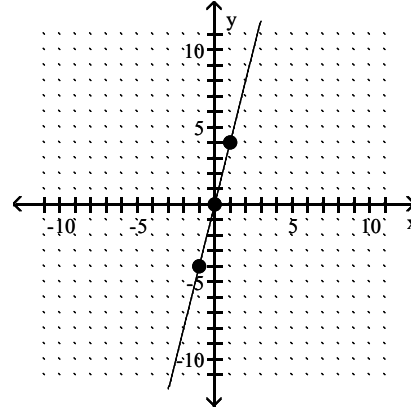
A)

x	y
0	4
1	6
-1	2



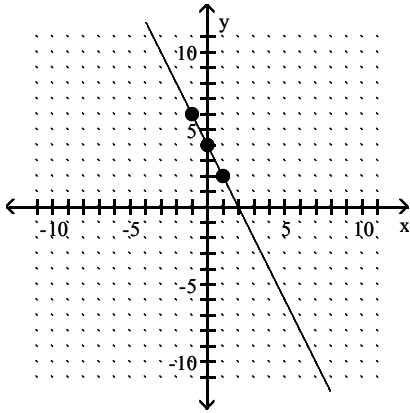
B)

x	y
0	0
1	4
-1	-4



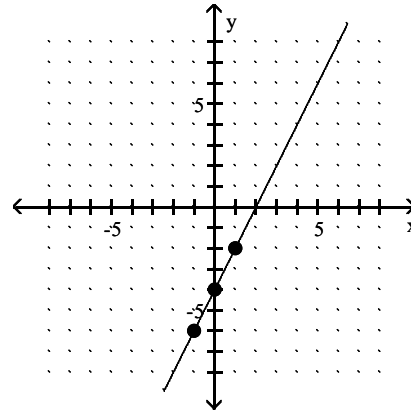
C)

x	y
0	4
1	2
-1	6



D)

x	y
0	-4
1	-2
-1	-6



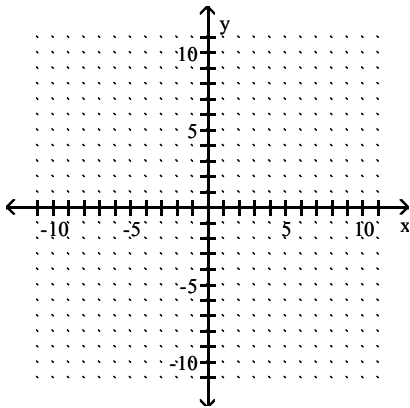
Answer: A

Objective: (10.2) Graph a linear equation by finding and plotting ordered pair solutions.

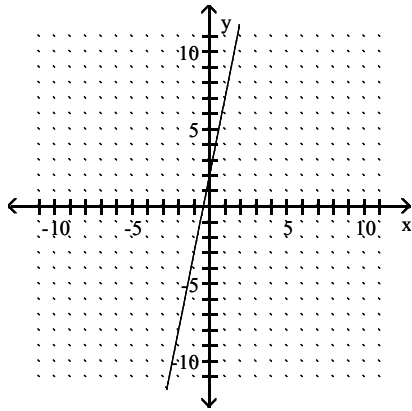
Graph the linear equation.

22)  $5y - 25x = 10$

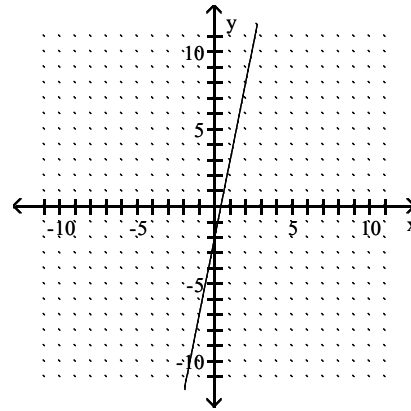
22) \_\_\_\_\_



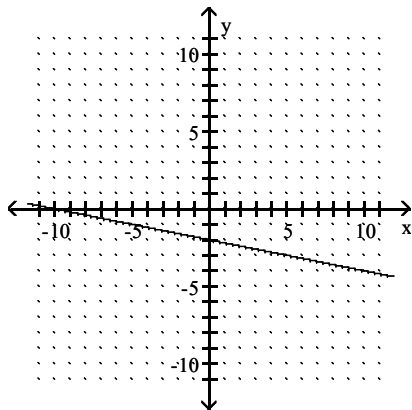
A)



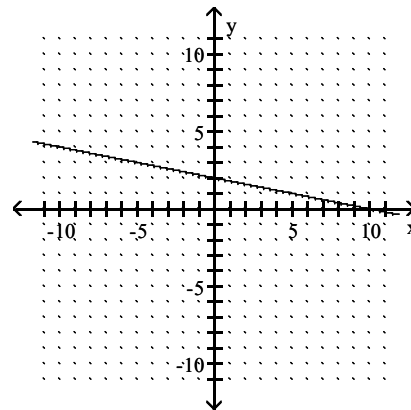
B)



C)



D)



Answer: A

Objective: (10.2) Graph a linear equation by finding and plotting ordered pair solutions.

Find the slope of the line that passes through the given points.

23) (8, 5) and (6, 9)

A) - 2

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

C) 1

D) 2

23) \_\_\_\_\_

Answer: A

Objective: (10.4) Find the slope of a line given two points of the line.

Find an equation of the line described. Write the equation in slope-intercept form if possible.

24) Slope 2, through (5, 2)

A)  $y = 2x - 8$

B)  $y = 2x + 8$

C)  $x = 2y - 8$

D)  $x = 2y + 8$

24) \_\_\_\_\_

Answer: A

Objective: (10.5) Use the point-slope form to find an equation of a line given its slope and a point of the line.

Evaluate the function.

25) Find  $f(4)$  when  $f(x) = x^2 + 4x - 3$ .

A) 29

B) 35

C) 3

D) -3

25) \_\_\_\_\_

Answer: A

Objective: (10.6) Use function notation.

**Solve the system of equations by the addition method.**

26)  $\begin{cases} -2x + 3y = 2 \\ -3x + 5y = 2 \end{cases}$  26) \_\_\_\_\_  
A) (-4, -2) B) (-2, -4)  
C) infinite number of solutions D) no solution

Answer: A

Objective: (11.3) Use the addition method to solve a system of linear equations.

27)  $\begin{cases} x + y = 7 \\ x + y = 4 \end{cases}$  27) \_\_\_\_\_  
A) no solution B) (0, 0) C) (7, 4) D) (0, 11)

Answer: A

Objective: (11.3) Use the addition method to solve a system of linear equations.

28)  $\begin{cases} -2x + 2y = -5 \\ 6x - 6y = 15 \end{cases}$  28) \_\_\_\_\_  
A) infinite number of solutions B) (0, 0)  
C) (-2, 2) D) no solution

Answer: A

Objective: (11.3) Use the addition method to solve a system of linear equations.

**Perform the indicated operation.**

29)  $(14x + 5) - (-13x^2 - 7x + 5)$  29) \_\_\_\_\_  
A)  $13x^2 + 21x$  B)  $13x^2 + 21x - 10$  C)  $-13x^2 + 7x + 10$  D)  $13x^2 - 21x$

Answer: A

Objective: (12.2) Add and subtract polynomials.

**Multiply.**

30)  $6x^2(-2x^2 + 2x + 6)$  30) \_\_\_\_\_  
A)  $-12x^4 + 12x^3 + 36x^2$  B)  $-12x^4 + 12x^2 + 36$   
C)  $4x^4 + 8x + 12$  D)  $-12x^4 + 12x + 36$

Answer: A

Objective: (12.3) Use the distributive property to multiply polynomials.

31)  $(a + 8)(a + 1)$  31) \_\_\_\_\_  
A)  $2a + 8$  B)  $a^2 + 9a + 9$  C)  $a^2 + 9a + 8$  D)  $2a^2 + 8$

Answer: C

Objective: (12.3) Use the distributive property to multiply polynomials.

32)  $(b - 5)(b^2 + 5b + 3)$  32) \_\_\_\_\_  
A)  $b^3 + 28b + 15$  B)  $b^3 - 22b - 15$   
C)  $b^3 - 10b^2 - 22b - 15$  D)  $b^3 + 10b^2 + 22b + 15$

Answer: B

Objective: (12.3) Use the distributive property to multiply polynomials.

**Multiply vertically.**

33)  $(6x - 1)(x^2 - 4x + 1)$

A)  $6x^3 - 23x^2 + 2x - 1$

C)  $6x^3 - 24x^2 + 6x + 1$

B)  $6x^3 - 25x^2 + 10x - 1$

D)  $6x^3 + 25x^2 - 10x + 1$

33) \_\_\_\_\_

Answer: B

Objective: (12.3) Multiply polynomials vertically.

**Multiply.**

34)  $(3a - 7)^2$

A)  $9a^2 - 42a + 49$

B)  $9a^2 + 49$

C)  $3a^2 - 42a + 49$

D)  $3a^2 + 49$

34) \_\_\_\_\_

Answer: A

Objective: (12.4) Square a binomial.

35)  $(x + 11)(x - 11)$

A)  $x^2 - 121$

B)  $x^2 - 22$

C)  $x^2 - 22x - 121$

D)  $x^2 + 22x - 121$

35) \_\_\_\_\_

Answer: A

Objective: (12.4) Multiply the sum and difference of two terms.

**Simplify the expression. Write the result using positive exponents only.**

36)  $\frac{2^{-7}x^{-5}y^3}{2^{-4}x^{-8}y^6}$

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

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

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

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

36) \_\_\_\_\_

Answer: A

Objective: (12.5) Use all the rules and definitions for exponents to simplify exponential expressions.

**Find the quotient using long division.**

37)  $\frac{5m^2 + 5m - 10}{m + 2}$

A)  $5m - 5$

B)  $5m + 5$

C)  $m - 5$

D)  $5m - 5 + \frac{7}{m - 5}$

37) \_\_\_\_\_

Answer: A

Objective: (12.6) Use long division to divide a polynomial by another polynomial.

38)  $\frac{x^2 + 9x + 6}{x + 2}$

A)  $x + 7 - \frac{8}{x + 2}$

B)  $x + 7 + \frac{8}{x + 2}$

C)  $\frac{x + 7}{x + 2}$

D)  $x + 8$

38) \_\_\_\_\_

Answer: A

Objective: (12.6) Use long division to divide a polynomial by another polynomial.

**Factor out the GCF from the polynomial.**

39)  $20x^4y + 36xy^3$

A)  $4x(5x^3y + 9y^3)$

B)  $4y(5x^4 + 9xy^2)$

C)  $4xy(5x^3 + 9y^2)$

D)  $xy(20x^3 + 36y^2)$

39) \_\_\_\_\_

Answer: C

Objective: (13.1) Factor out the greatest common factor from a polynomial.



**Factor the four-term polynomial by grouping.**

40)  $3xy - 9x + 7y - 21$  40) \_\_\_\_\_  
A)  $(3x + 7)(y - 3)$  B)  $(3x - 3)(y + 7)$  C)  $(3x + 7y)(y - 3)$  D)  $(3x + y)(7y - 3)$

Answer: A

Objective: (13.1) Factor a polynomial by grouping.

**Factor the trinomial completely. If the polynomial cannot be factored, write "prime."**

41)  $x^2 - x - 42$  41) \_\_\_\_\_  
A)  $(x + 7)(x - 6)$  B) prime C)  $(x + 6)(x - 7)$  D)  $(x + 1)(x - 42)$

Answer: C

Objective: (13.2) Factor trinomials of the form  $x^2 + bx + c$ .

42)  $u^2 - 3uv - 28v^2$  42) \_\_\_\_\_  
A)  $(u + 4v)(u - 7v)$  B)  $(u - 4v)(u + v)$  C)  $(u - 4v)(u + 7v)$  D) prime

Answer: A

Objective: (13.2) Factor trinomials of the form  $x^2 + bx + c$ .

43)  $x^2 + 3xy - 18y^2$  43) \_\_\_\_\_  
A)  $(x - 6y)(x + 3y)$  B)  $(x + 6y)(x - 3y)$  C)  $(x - 6y)(x + y)$  D)  $(x - y)(x + 3y)$

Answer: B

Objective: (13.2) Factor trinomials of the form  $x^2 + bx + c$ .

**Factor the binomial completely.**

44)  $z^2 - 121$  44) \_\_\_\_\_  
A) prime B)  $(z - 11)^2$  C)  $(z + 11)(z - 11)$  D)  $(z + 11)^2$

Answer: C

Objective: (13.5) Factor the difference of two squares.

45)  $81x^2 - 49$  45) \_\_\_\_\_  
A)  $(9x + 7)(9x - 7)$  B)  $(9x - 7)^2$  C)  $(9x + 7)^2$  D) prime

Answer: A

Objective: (13.5) Factor the difference of two squares.

46)  $121 - w^2$  46) \_\_\_\_\_  
A)  $(11 - w)(11 + w)$  B)  $(11 + w)^2$  C)  $(11 - w)^2$  D) prime

Answer: A

Objective: (13.5) Factor the difference of two squares.

47)  $64 - 81x^2$  47) \_\_\_\_\_  
A)  $(8 + 9x)(8 - 9x)$  B)  $(8 - 9x)^2$  C)  $(8 + 9x)^2$  D) prime

Answer: A

Objective: (13.5) Factor the difference of two squares.

48)  $w^2r^2 - 1$  48) \_\_\_\_\_  
A)  $(wr + 1)(wr - 1)$  B)  $(wr + 1)^2$  C)  $(wr - 1)^2$  D) prime

Answer: A

Objective: (13.5) Factor the difference of two squares.

49)  $25x^2 - 36y^2$

A)  $(5x + 6y)(5x - 6y)$

C)  $(5x + 6y)^2$

Answer: A

Objective: (13.5) Factor the difference of two squares.

B)  $(5x - 6y)^2$

D) prime

49) \_\_\_\_\_

50)  $x^2 - \frac{25}{64}$

A)  $\left(x + \frac{5}{8}\right)\left(x - \frac{5}{8}\right)$

B)  $\left(x - \frac{5}{8}\right)^2$

C)  $\left(x + \frac{5}{8}\right)\left(\frac{5}{8} - x\right)$

D)  $\left(x + \frac{5}{8}\right)^2$

Answer: A

Objective: (13.5) Factor the difference of two squares.

50) \_\_\_\_\_

## Answer Key

Testname: AAFM041024350M

- 1) A
- 2) A
- 3) A
- 4) A
- 5) A
- 6) A
- 7) A
- 8) A
- 9) A
- 10) A
- 11) A
- 12) A
- 13) A
- 14) A
- 15) A
- 16) D
- 17) C
- 18) A
- 19) A
- 20) A
- 21) A
- 22) A
- 23) A
- 24) A
- 25) A
- 26) A
- 27) A
- 28) A
- 29) A
- 30) A
- 31) C
- 32) B
- 33) B
- 34) A
- 35) A
- 36) A
- 37) A
- 38) A
- 39) C
- 40) A
- 41) C
- 42) A
- 43) B
- 44) C
- 45) A
- 46) A
- 47) A
- 48) A
- 49) A
- 50) A