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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 to an equation and solve.

10) 19 is 4% of what number?

10) _____

A) 475

B) 4750

C) 47.5

D) 76

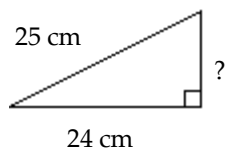
Answer: A

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

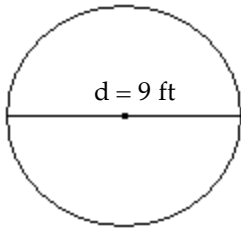
Answer: A

Objective: (7.5) Find the Probability of an Event

Find the area of the geometric figure.

13)

13) _____



Use 3.14 for π .

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

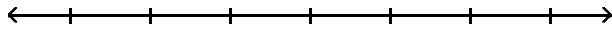
Answer: A

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

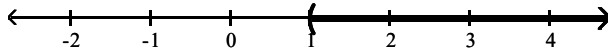
Solve the inequality. Graph the solution set and write it in interval notation.

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

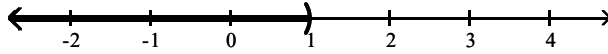
19) _____



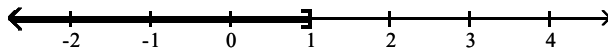
A) $(1, \infty)$



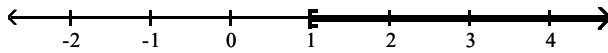
B) $(-\infty, 1)$



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

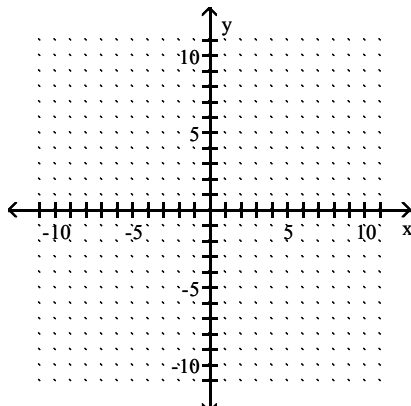
Objective: (10.1) Determine whether an ordered pair is a solution of an equation in two variables.

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

21) $y = 2x + 4$

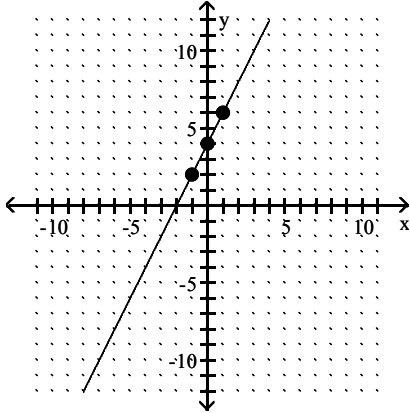
21) _____

x	y
0	
1	
-1	



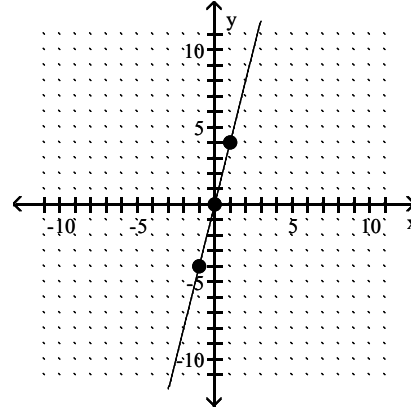
A)

x	y
0	4
1	6
-1	2



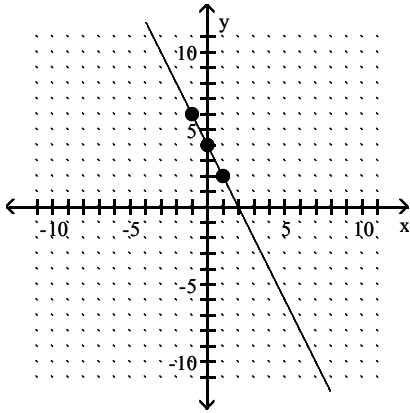
B)

x	y
0	0
1	4
-1	-4



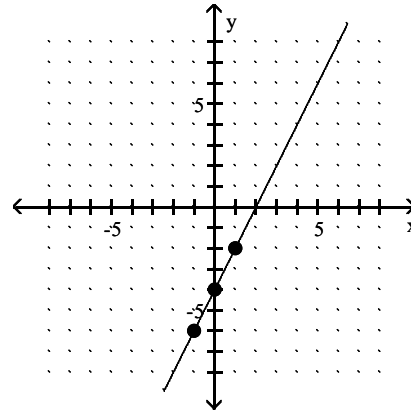
C)

x	y
0	4
1	2
-1	6



D)

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



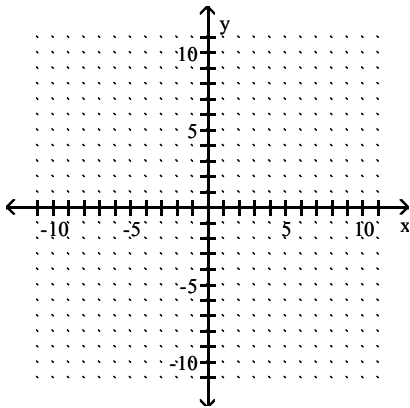
Answer: A

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

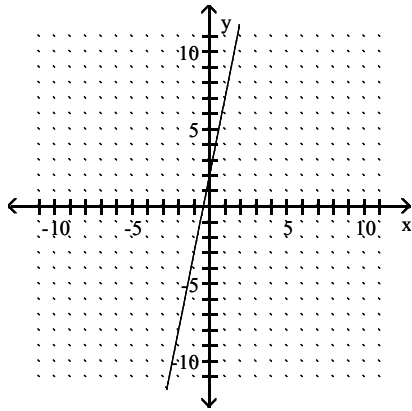
Graph the linear equation.

22) $5y - 25x = 10$

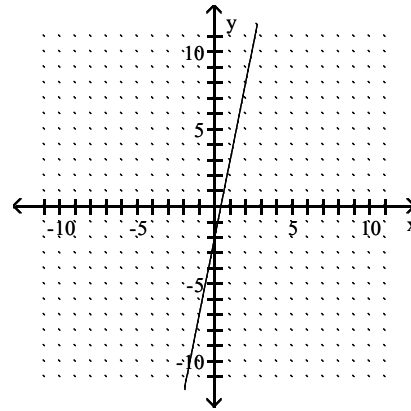
22) _____



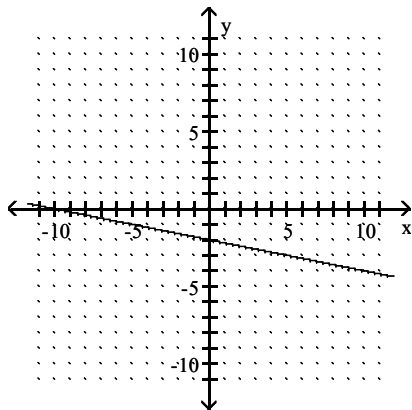
A)



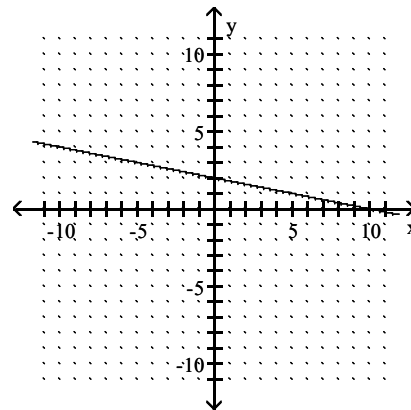
B)



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) $3xy - 9x + 7y - 21$

A) $(3x + 7)(y - 3)$

B) $(3x - 3)(y + 7)$

C) $(3x + 7y)(y - 3)$

D) $(3x + y)(7y - 3)$

40) _____

Answer: A

Objective: (13.1) Factor a polynomial by grouping.

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

41) $x^2 - x - 42$

A) $(x + 7)(x - 6)$

B) prime

C) $(x + 6)(x - 7)$

D) $(x + 1)(x - 42)$

41) _____

Answer: C

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

42) $u^2 - 3uv - 28v^2$

A) $(u + 4v)(u - 7v)$

B) $(u - 4v)(u + v)$

C) $(u - 4v)(u + 7v)$

D) prime

42) _____

Answer: A

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

43) $x^2 + 3xy - 18y^2$

A) $(x - 6y)(x + 3y)$

B) $(x + 6y)(x - 3y)$

C) $(x - 6y)(x + y)$

D) $(x - y)(x + 3y)$

43) _____

Answer: B

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

Factor the binomial completely.

44) $z^2 - 121$

A) prime

B) $(z - 11)^2$

C) $(z + 11)(z - 11)$

D) $(z + 11)^2$

44) _____

Answer: C

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

Answer Key

Testname: AAFINM041024344

- 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