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

Multiply.

1) $-16(3)$
   
   A) $-48$  
   B) $-32$  
   C) $-51$  
   D) 32
   
   Answer: A
   Objective: (2.4) Multiply Integers
   interactmath sections developmental mathematics sullivan 1e

2) $-8(-8)$
   
   A) 64  
   B) $-72$  
   C) 72  
   D) $-64$
   
   Answer: A
   Objective: (2.4) Multiply Integers

Divide, if possible. If a quotient is undefined, state so.

3) $\frac{-18}{3}$
   
   A) $-7$  
   B) $-6$  
   C) $-5$  
   D) 6
   
   Answer: B
   Objective: (2.4) Divide Integers

4) $\frac{-14}{-2}$
   
   A) $-8$  
   B) 7  
   C) $-7$  
   D) $-6$
   
   Answer: B
   Objective: (2.4) Divide Integers

Find the mean for the list of numbers.

5) Ages of patients (in years) in a clinic: 18, 2, 29, 18
   Round answer to the nearest whole number if necessary.
   
   A) 18 years  
   B) 17 years  
   C) 16 years  
   D) 2 year(s)
   
   Answer: B
   Objective: (7.3) Find the Mean of a Set of Numbers

6) Monthly checking account fees: $17, $10, $6, $11, $6, $4, $4
   Round answer to the nearest whole number if necessary.
   
   A) $11$  
   B) $4$  
   C) $8$  
   D) $7$
   
   Answer: C
   Objective: (7.3) Find the Mean of a Set of Numbers
7) Annual sales bonuses: $1450, $4460, $6940, $7240, $1880, $6250
Round answer to the nearest whole number if necessary.
   A) $7240       B) $6940       C) $4703       D) $4702
Answer: C

Objective: (7.3) Find the Mean of a Set of Numbers

Find the median for the data given.
8) Number of steaks served: 2, 10, 18, 24, 43, 44, 49
   A) 27 steaks       B) 43 steaks       C) 24 steaks       D) 18 steaks
Answer: C

Objective: (7.3) Find the Median of a Set of Numbers

Determine whether the ordered pair satisfies the equation.
9) 5x + 2y = 26; (4, 3)
   A) Yes       B) No
Answer: A

Objective: (7.4) Determine Whether an Ordered Pair Satisfies an Equation in Two Variables

Determine if the given value is a solution to the equation. Answer Yes or No.
10) 8x - 10 = 15; x = 3
    A) No       B) Yes
Answer: A

Objective: (8.2) Determine If a Number Is a Solution of an Equation

Solve the equation using the Multiplication Property of Equality.
11) -2x = -12
    A) {6}       B) {-10}       C) {2}       D) {10}
Answer: A

Objective: (8.2) Use the Multiplication Property of Equality to Solve Linear Equations

Solve the equation. Check your solution.
12) 3r + 6 = 30
    A) {25}       B) {21}       C) {8}       D) {4}
Answer: C

Objective: (8.3) Apply the Addition and the Multiplication Properties of Equality to Solve Linear Equations

13) 43 = -6x - 5
    A) {2}       B) {58}       C) {54}       D) {-8}
Answer: D

Objective: (8.3) Apply the Addition and the Multiplication Properties of Equality to Solve Linear Equations

14) -7x - 11 + 8x = -4
    A) {15}       B) {7}       C) {-15}       D) {-7}
Answer: B

Objective: (8.3) Combine Like Terms and Apply the Distributive Property to Solve Linear Equations
15) $5x - (2x - 1) = 2$

A) $\left\{ -\frac{1}{3} \right\}$  
B) $\left\{ -\frac{1}{7} \right\}$  
C) $\left\{ \frac{1}{3} \right\}$  
D) $\left\{ \frac{1}{7} \right\}$

Answer: C  
Objective: (8.3) Combine Like Terms and Apply the Distributive Property to Solve Linear Equations

16) $-7x - 7 = 1 + 9x$

A) $\left\{ -\frac{1}{3} \right\}$  
B) $\left\{ -2 \right\}$  
C) $\left\{ 2 \right\}$  
D) $\left\{ -\frac{1}{2} \right\}$

Answer: D  
Objective: (8.3) Solve a Linear Equation with the Variable on Both Sides of the Equation

17) $3x - 8 = 4(x + 1)$

A) $\{12\}$  
B) $\{-4\}$  
C) $\{-12\}$  
D) $\{4\}$

Answer: C  
Objective: (8.3) Solve a Linear Equation with the Variable on Both Sides of the Equation

18) $\frac{5x}{2} + 3 = \frac{1}{7}$

A) $\left\{ \frac{2}{5} \right\}$  
B) $\left\{ -\frac{8}{7} \right\}$  
C) $\left\{ -\frac{41}{35} \right\}$  
D) $\left\{ \frac{33}{35} \right\}$

Answer: B  
Objective: (8.4) Use the Least Common Denominator to Solve a Linear Equation Containing Fractions

19) $\frac{13}{10}x + \frac{6}{5} - \frac{6}{5}x$

A) $\{12\}$  
B) $\{24\}$  
C) $\{-24\}$  
D) $\{-12\}$

Answer: D  
Objective: (8.4) Use the Least Common Denominator to Solve a Linear Equation Containing Fractions

20) $\frac{r + 6}{5} = \frac{r + 8}{7}$

A) $\{1\}$  
B) $\{-2\}$  
C) $\{-1\}$  
D) $\{2\}$

Answer: C  
Objective: (8.4) Use the Least Common Denominator to Solve a Linear Equation Containing Fractions

21) $-46.8 = -5.2x$

A) $\{2\}$  
B) $\{9\}$  
C) $\{-41.6\}$  
D) $\{41.6\}$

Answer: B  
Objective: (8.4) Solve a Linear Equation Containing Decimals

22) $x + 7.1x = 234.9$

A) $\{2.9\}$  
B) $\{30\}$  
C) $\{36.1\}$  
D) $\{29\}$

Answer: D  
Objective: (8.4) Solve a Linear Equation Containing Decimals
23) \(-0.03(30) + 0.50x = 0.30(30 + x)\)
   A) \{25\}  B) \{40\}  C) \{60\}  D) \{50\}

Answer: D
Objective: (8.4) Solve a Linear Equation Containing Decimals

Solve the equation. State whether the equation is a contradiction, an identity, or a conditional equation.
24) \(-7x + 5 + 5x = -2x + 10\)
   A) \(\emptyset\) or \{\}; contradiction
   B) \{-5\}; conditional equation
   C) \{5\}; conditional equation
   D) all real numbers; identity

Answer: A
Objective: (8.4) Classify a Linear Equation as an Identity, Conditional, or a Contradiction

25) \(2(x + 3) = (2x + 6)\)
   A) \(\emptyset\) or \{\}; contradiction
   B) \{0\}; conditional equation
   C) all real numbers; identity
   D) \{12\}; conditional equation

Answer: C
Objective: (8.4) Classify a Linear Equation as an Identity, Conditional, or a Contradiction

26) \(\frac{x}{2} + \frac{1}{6} = \frac{6x + 2}{12}\)
   A) \(\left\{\begin{array}{l}1 \\ \frac{1}{3}\end{array}\right\}\); conditional equation
   B) all real numbers; identity
   C) \(\left\{\begin{array}{l}-1 \\ \frac{1}{3}\end{array}\right\}\); conditional equation
   D) \(\emptyset\) or \{\}; contradiction

Answer: B
Objective: (8.4) Classify a Linear Equation as an Identity, Conditional, or a Contradiction

Substitute the given values into the formula and then evaluate to find the unknown quantity. Label units in your answer. If the answer is not exact, round your answer to the nearest hundredth.
27) \(P = 2L + 2W;\) \(P = 28, W = 9\)
   A) 14 units  B) 5 units  C) 9.5 units  D) 19 units

Answer: B
Objective: (8.5) Evaluate a Formula

28) \(V = \frac{1}{3}Bh;\) \(V = 48, h = 8\)
   A) 18 units  B) 6 units  C) 384 units  D) 56 units

Answer: A
Objective: (8.5) Evaluate a Formula

29) \(I = prt;\) \(I = 44.8, p = 160, r = 0.04\)
   A) 286.72 units  B) 0.7 units  C) 2.8672 units  D) 7 units

Answer: D
Objective: (8.5) Evaluate a Formula
30) Use the formula $C = \frac{5}{9}(F - 32)$ to convert 167° F to degrees Celsius.

A) 110.6° C  B) 60.8° C  C) 332.6° C  D) 75° C

Answer: D

Objective: (8.5) Evaluate a Formula

31) You have a cylindrical cooking pot whose radius is 6 inches and whose height is 7 inches. How many full cans of soup will fit into the pot if each can has holds 10 cubic inches of soup? Use the formula $V = \pi r^2 h$ and 3.14 as an approximation for $\pi$.

A) 79 cans of soup  B) 26 cans of soup  C) 25 cans of soup  D) 80 cans of soup

Answer: A

Objective: (8.5) Evaluate a Formula

32) The area of a circle with radius $r$ is given by the formula $A = \pi r^2$. Find the area of a circle with radius 7 centimeters. Use 3.14 for $\pi$.

A) 153.86 cm²  B) 10.14 cm²  C) 69.02 cm²  D) 21.98 cm²

Answer: A

Objective: (8.5) Evaluate a Formula

Solve the formula for the stated variable.

33) $C = 2\pi r$; solve for $r$

A) $r = \frac{C}{2\pi}$  B) $r = 2\pi C$  C) $r = \frac{2\pi}{C}$  D) $r = \frac{C\pi}{2}$

Answer: A

Objective: (8.5) Solve a Formula for a Variable

34) $A = lw$; solve for $w$

A) $w = \frac{1}{A}$  B) $w = \frac{A}{l}$  C) $w = A - l$  D) $w = Al$

Answer: B

Objective: (8.5) Solve a Formula for a Variable

35) $I = Prt$; solve for $r$

A) $r = \frac{P - 1}{It}$  B) $r = \frac{P - 1}{I + t}$  C) $r = \frac{1}{Pt}$  D) $r = P - It$

Answer: C

Objective: (8.5) Solve a Formula for a Variable

36) $V = \frac{1}{3}Ah$; solve for $h$

A) $h = \frac{3A}{V}$  B) $h = \frac{A}{3V}$  C) $h = \frac{V}{3A}$  D) $h = \frac{3V}{A}$

Answer: D

Objective: (8.5) Solve a Formula for a Variable
37) \( P = a + b + c \); solve for \( c \)
   
   \begin{align*}
   A) & \ c = a + b - P \\
   B) & \ c = P + a + b \\
   C) & \ c = P - a - b \\
   D) & \ c = P + a - b
   \end{align*}

   Answer: C

   Objective: (8.5) Solve a Formula for a Variable
   final037 interactmath 8.4 #51

38) \( A = P + PRT \); solve for \( R \)
   
   \begin{align*}
   A) & \ R = \frac{A - P}{PT} \\
   B) & \ R = \frac{P - A}{PT} \\
   C) & \ R = \frac{PT}{A - P} \\
   D) & \ R = \frac{A}{T}
   \end{align*}

   Answer: A

   Objective: (8.5) Solve a Formula for a Variable
   final038 interactmath 8.4 #53

39) \( A = \frac{1}{2}(B + b) \); solve for \( B \)
   
   \begin{align*}
   A) & \ B = \frac{2A - bh}{h} \\
   B) & \ B = \frac{2A + bh}{h} \\
   C) & \ B = 2A - bh \\
   D) & \ B = \frac{A - bh}{h}
   \end{align*}

   Answer: A

   Objective: (8.5) Solve a Formula for a Variable
   final039 interactmath 8.4 #55

Solve for \( y \).

40) \( 4x - 5y = 2 \)
   
   \begin{align*}
   A) & \ y = \frac{4x - 2}{5} \\
   B) & \ y = 4x - 2 \\
   C) & \ y = \frac{4x + 2}{5} \\
   D) & \ y = \frac{2 - 4x}{5}
   \end{align*}

   Answer: A

   Objective: (8.5) Solve a Formula for a Variable
   final040 interactmath 8.4 #61

41) \( 14x + 9y = 10 \)
   
   \begin{align*}
   A) & \ y = \frac{10 - 14x}{9} \\
   B) & \ y = \frac{14}{9}x - \frac{10}{9} \\
   C) & \ y = \frac{14x - 10}{9} \\
   D) & \ y = \frac{14x + 10}{9}
   \end{align*}

   Answer: A

   Objective: (8.5) Solve a Formula for a Variable
   final041 interactmath 8.4 #61

Solve the problem.

42) The sum of a number and three is negative eleven. Find the number.
   
   \begin{align*}
   A) & \ 14 \\
   B) & \ -14 \\
   C) & \ -8 \\
   D) & \ 0
   \end{align*}

   Answer: B

   Objective: (8.6) Build Models for Solving Direct Translation Problems
   final042 interactmath 8.5 #61

43) Six times a number, added to 18, is 36. Find the number.
   
   \begin{align*}
   A) & \ 18 \\
   B) & \ 108 \\
   C) & \ 3 \\
   D) & \ -3
   \end{align*}

   Answer: C

   Objective: (8.6) Build Models for Solving Direct Translation Problems
   final043 interactmath 8.5 #63

44) 2 times a number less than 7 times the same number is 35. Find the number.
   
   \begin{align*}
   A) & \ 5 \\
   B) & \ -7 \\
   C) & \ 7 \\
   D) & \ 2.4
   \end{align*}

   Answer: C

   Objective: (8.6) Build Models for Solving Direct Translation Problems
   final044 interactmath 8.5 #75
Find the unknown in each percent question.

45) What is 10% of 400?
   A) 0.4    B) 400    C) 40    D) 4
   Answer: C
   Objective: (8.7) Solve Direct Translation Problems Involving Percent

Solve the problem.

46) 11% of students at a university attended a lecture. If 4000 students are enrolled at the university, about how many students attended the lecture?
   A) 44 students    B) 44,000 students    C) 440 students    D) 4400 students
   Answer: C
   Objective: (8.7) Solve Direct Translation Problems Involving Percent

47) Logan bought stocks and later sold them for $823,900, making a profit of 7%. How much did he pay for the stocks?
   A) $53,900    B) $57,673    C) $770,000    D) $847,000,000
   Answer: C
   Objective: (8.7) Model and Solve Direct Translation Problems from Business Involving Percent

48) After receiving a discount of 7.5% on its bulk order of typewriter ribbons, John's Office Supply pays $4810. What was the price of the order before the discount? Round to the nearest dollar if necessary.
   A) $4449    B) $5200    C) $4690    D) $5171
   Answer: B
   Objective: (8.7) Model and Solve Direct Translation Problems from Business Involving Percent

49) Find two complementary angles such that the measure of the first angle is \( x^\circ \), and the measure of the second angle is \((3x - 2)^\circ\).
   A) 1st angle = 22°; 2nd angle = 64°    B) 1st angle = 22°; 2nd angle = 68°
   C) 1st angle = 23°; 2nd angle = 67°    D) 1st angle = 31°; 2nd angle = 59°
   Answer: C
   Objective: (8.8) Set Up and Solve Complementary and Supplementary Angle Problems

50) Find two supplementary angles such that the first angle is 30° more than 5 times the second.
   A) 25°; 155°    B) 10°; 80°    C) 30°; 150°    D) 155°; 25°
   Answer: D
   Objective: (8.8) Set Up and Solve Complementary and Supplementary Angle Problems
51) Find the measure of each angle of the triangle.

\[ \triangle \]

\[ \angle A = (2x + 15)^\circ \]
\[ \angle B = (3x - 15)^\circ \]

A) 90°, 60°, 30°  
B) 45°, 82.5°, 52.5°  
C) 30°, 75°, 75°  
D) 60°, 75°, 45°

Answer: C
Objective: (8.8) Set Up and Solve Angles of a Triangle Problems

52) A rectangular carpet has a perimeter of 198 inches. The length of the carpet is 61 inches more than the width. What are the dimensions of the carpet?

A) 80 by 99 inches  
B) 59 by 78 inches  
C) 89.5 by 99 inches  
D) 80 by 19 inches

Answer: D
Objective: (8.8) Use Geometry Formulas to Solve Problems

53) A motorcycle traveling at 50 miles per hour overtakes a car traveling at 30 miles per hour that had a three-hour head start. How far from the starting point are the two vehicles?

A) 225 miles  
B) 56.3 miles  
C) 7.5 miles  
D) 4.5 miles

Answer: A
Objective: (8.8) Set Up and Solve Uniform Motion Problems

54) Two cars start from the same point and travel in the same direction. If one car is traveling 60 miles per hour and the other car is traveling at 56 miles per hour, how far apart will they be after 8 hours?

A) 928 miles  
B) 480 miles  
C) 32 miles  
D) 448 miles

Answer: C
Objective: (8.8) Set Up and Solve Uniform Motion Problems
Graph the inequality on a number line, and write the inequality in interval notation.

55) \( x > -2 \)

A) \((-\infty, -2)\)
B) \([-2, \infty)\)
C) \((-\infty, -2]\)
D) \((-2, \infty)\)

Answer: D

Objective: (8.9) Graph Inequalities on the Real Number Line

56) \( x \geq 3 \)

A) \((3, \infty)\)
B) \((-\infty, 3]\)
C) \((-\infty, 3)\)
D) \([3, \infty)\)

Answer: D

Objective: (8.9) Graph Inequalities on the Real Number Line

57) Use interval notation to express the inequality shown in the graph.

A) \((-\infty, -1]\)
B) \((-1, \infty)\)
C) \([-1, \infty)\)
D) \((-\infty, -1)\)

Answer: A

Objective: (8.9) Use Interval Notation
58) \[ \begin{align*}
&\text{A) (3, } \infty) \\
&\text{B) } (-\infty, 3] \\
&\text{C) } [3, \infty) \\
&\text{D) } (-\infty, 3)
\end{align*} \]

Answer: D

Objective: (8.9) Use Interval Notation

59) \[ \begin{align*}
&\text{A) } [-6, 1) \\
&\text{B) } (-6, 1) \\
&\text{C) } (-6, 1] \\
&\text{D) } [-6, 1]
\end{align*} \]

Answer: A

Objective: (8.9) Use Interval Notation

Solve the inequality and express the solution set in interval notation. Graph the solution set on the real number line.

60) \( x - 3 < -5 \)

\[ \begin{align*}
&\text{A) } (-\infty, -8) \\
&\text{B) } (-2, \infty) \\
&\text{C) } (-\infty, -2) \\
&\text{D) } (-\infty, -8]
\end{align*} \]

Answer: C

Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality
61) $x - 1 \leq -5$

A) $(-\infty, -6)$
B) $(-\infty, -4]$  
C) $(-\infty, -4)$
D) $[-4, \infty)$

Answer: B

Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality

62) $x + 5 < 1$

A) $(-\infty, 6]$  
B) $(-\infty, 6)$
C) $(-\infty, -4)$  
D) $(-4, \infty)$

Answer: C

Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality
63) \(7x \geq -21\)

A) \((-\infty, -3]\)

B) \((-\infty, 3)\)

C) \([-3, \infty)\)

D) \((3, \infty)\)

Answer: C

Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality

64) \(-3x > 36\)

A) \((-\infty, -12)\)

B) \((12, \infty)\)

C) \((-\infty, 12)\)

D) \((-12, \infty)\)

Answer: A

Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality
65) \(2x + 6 < 22\)

- **A)** \((-\infty, 8)\)
- **B)** \((-\infty, 8]\)
- **C)** \([8, \infty)\)
- **D)** \((8, \infty)\)

**Answer:** A

**Objective:** (8.9) Solve Linear Inequalities Using Properties of Inequality

66) \(6x + 3 > 5x - 1\)

- **A)** \((-\infty, -4]\)
- **B)** \([-4, \infty)\)
- **C)** \((-4, \infty)\)
- **D)** \((2, \infty)\)

**Answer:** C

**Objective:** (8.9) Solve Linear Inequalities Using Properties of Inequality
67) \[1.4x - 3.8 > 0.7x - 1.07\]

A) \((-\infty, 3.9)\)

B) \((3.8, \infty)\)

C) \((-\infty, 3.8)\)

D) \((3.9, \infty)\)

Answer: D

Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality

68) \[6x - 2 < 7(x - 3)\]

A) \((-23, \infty)\)

B) \((-\infty, -19)\)

C) \((19, \infty)\)

D) \((-\infty, 23)\)

Answer: C

Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality
69) \(35x + 35 > 5(6x + 6)\)

A) \([-1, \infty)\)

B) \((-1, \infty)\)

C) \((-\infty, -1]\)

D) \((-\infty, -1)\)

Answer: B

Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality

70) \(5 - 3(1 - x) \leq 11\)

A) \((-\infty, 3]\)

B) \([3, \infty)\)

C) \((-\infty, 3)\)

D) \((-\infty, 4]\)

Answer: A

Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality

Decide whether or not the ordered pair is a solution to the equation.
71) \(4x + 2y = 16; (2, 4)\)

A) Yes  
B) No

Answer: A

Objective: (9.2) Determine If an Ordered Pair Satisfies an Equation

72) \(3x - 5y = 35; (5, 4)\)

A) Yes  
B) No

Answer: B

Objective: (9.2) Determine If an Ordered Pair Satisfies an Equation

Solve the problem.
73) Find an ordered pair that satisfies the equation \(y = -x + 9\) by letting \(x = 5\).

A) \((4, 5)\)  
B) \((5, 5)\)  
C) \((4, 4)\)  
D) \((5, 4)\)

Answer: D

Objective: (9.2) Determine If an Ordered Pair Satisfies an Equation
74) Find an ordered pair that satisfies the equation $4x + y = -34$ by letting $x = -9$.
A) $(-9, -9)$  B) $(-9, 2)$  C) $(-9, -38)$  D) $(2, -9)$

Answer: B

Objective: (9.2) Determine If an Ordered Pair Satisfies an Equation

Graph the linear equation using the point-plotting method.
75) $y = 2x - 3$

Answer: B
Objective: (9.3) Graph a Line by Plotting Points

76) \( y = -3x - 6 \)

Answer: C

Objective: (9.3) Graph a Line by Plotting Points
77) \( y = x - 3 \)

Answer: C
Objective: (9.3) Graph a Line by Plotting Points
final077 interactmath 9.2  #37
Graph the linear equation by finding and plotting its intercepts.

78) \(6y - 3x = -9\)

\[y = \frac{3}{2}x - \frac{3}{2}\]

\[x = \frac{2}{3}y + 1\]

A) \(0, -\frac{3}{2}\), \((3, 0)\)

B) \(0, -\frac{3}{2}\), \((-3, 0)\)

Answer: A

Objective: (9.3) Graph a Line Using Intercepts

final078 interactmath 9.2 #43
79) \(-5x - 10y = 30\)

Answer: B

Objective: (9.3) Graph a Line Using Intercepts

Use a graphing calculator to graph the equation.

80) \(y = -3x + 1\)
Answer: A
Objective: (9.3) Graph a Line Using Intercepts
final080 interactmath 9.2 #63
Find the slope of the line through the points and interpret the slope.

A) \(-3\); for every 1-unit increase in x, y will decrease by 3 units
B) \(-\frac{1}{3}\); for every 3-unit increase in x, y will decrease by 1 unit
C) \(\frac{1}{3}\); for every 3-unit increase in x, y will increase by 1 unit
D) 3; for every 1-unit increase in x, y will increase by 3 units

Answer: C

Objective: (9.4) Find the Slope of a Line Given Two Points

Find the slope of the line containing the two points.

A) \(-\frac{6}{11}\); for every 11-unit increase in x, y will decrease by 6 units
B) \(\frac{11}{6}\); for every 6-unit increase in x, y will increase by 11 units
C) \(-\frac{11}{6}\); for every 6-unit increase in x, y will decrease by 11 units
D) \(\frac{6}{11}\); for every 11-unit increase in x, y will increase by 6 units

Answer: B

Find any two ordered pairs on the line. Graph the line and determine its slope.
85) $y = -3x - 6$

Answer: B

Objective: (9.4) Find the Slope of a Line Given Two Points

final085 interactmath 9.2 #95
86) \( y = \frac{1}{2}x + 2 \)

Answer: A

Objective: (9.4) Find the Slope of a Line Given Two Points
final086 interactmath 9.2 #79

Find the slope and the y-intercept.

87) \( y = 3x + 11 \)

A) \( m = 11; b = 3 \)  
B) \( m = \frac{1}{3}; b = 11 \)  
C) \( m = -3; b = -11 \)  
D) \( m = 3; b = 11 \)

Answer: D

Objective: (9.5) Use the Slope–Intercept Form to Identify the Slope and y-Intercept of a Line
final087 interactmath 9.4 #25
88) \( y = \frac{2}{3}x + \frac{5}{6} \)

A) \( m = \frac{-2}{3}; b = \frac{-5}{6} \)  
B) \( m = \frac{3}{2}; b = \frac{6}{5} \)  
C) \( m = \frac{2}{3}; b = \frac{5}{6} \)  
D) \( m = \frac{5}{6}; b = \frac{2}{3} \)

Answer: C

Objective: (9.5) Use the Slope–Intercept Form to Identify the Slope and y–Intercept of a Line

89) \( 3x + y = 4 \)

A) \( m = -\frac{1}{3}; b = \frac{4}{3} \)  
B) \( m = -3; b = 4 \)  
C) \( m = \frac{3}{4}; b = \frac{1}{4} \)  
D) \( m = 3; b = 4 \)

Answer: B

Objective: (9.5) Use the Slope–Intercept Form to Identify the Slope and y–Intercept of a Line

90) \( 7x - 3y = -11 \)

A) \( m = -7; b = -11 \)  
B) \( m = \frac{7}{3}; b = \frac{11}{3} \)  
C) \( m = 21; b = 33 \)  
D) \( m = \frac{3}{7}; b = -\frac{11}{7} \)

Answer: B

Objective: (9.5) Use the Slope–Intercept Form to Identify the Slope and y–Intercept of a Line

Use the slope and y–intercept to graph the equation.

91) \( y = 5x - 6 \)

A)  
B)
Answer: B

Objective: (9.5) Graph a Line Whose Equation Is in Slope-Intercept Form

92) \( y = \frac{1}{2}x + 5 \)
Answer: D

Objective: (9.5) Graph a Line Whose Equation Is in Slope-Intercept Form

93) $y = -\frac{1}{2}x + 2$
Answer: D

Objective: (9.5) Graph a Line Whose Equation Is in Slope-Intercept Form

94) 7x + 2y = 14

28
Answer: C

Objective: (9.5) Graph a Line Whose Equation Is in the Form $Ax + By = C$

Find the equation of the line with the given slope and intercept.

95) Slope -8; y-intercept is 2
   A) $y = -2x + 8$  B) $y = 8x - 2$  C) $y = -8x + 2$  D) $y = 2x - 8$
   Answer: C

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

96) (4, 3); slope = -3
   A) $y = -3x + 15$  B) $x = -3y + 15$  C) $y = -3x - 15$  D) $x = -3y - 15$
   Answer: A

97) (-2, -7); slope = -2
   A) $x = -2y + 11$  B) $y = -2x - 11$  C) $x = -2y - 11$  D) $y = -2x + 11$
   Answer: B

Determine if the lines parallel, perpendicular, or neither.

98) $L_1: y = x - 6$
   $L_2: y = 2 - x$
   A) neither  B) perpendicular  C) parallel
   Answer: B

99) $L_1: y = 7x + 9$
   $L_2: y = -7x - 3$
   A) perpendicular  B) parallel  C) neither
   Answer: C
100) \( L_1: y = 7x + 5 \)
\( L_2: y = -\frac{1}{7}x + 3 \)
A) perpendicular  
B) parallel  
C) neither

Answer: A

Objective: (9.7) Determine Whether Two Lines Are Perpendicular
ffinal100 interactmath 9.6 #33

101) \( L_1: 6x + 2y = 8 \)
\( L_2: 18x + 6y = 27 \)
A) parallel  
B) neither  
C) perpendicular

Answer: A

Objective: (9.7) Determine Whether Two Lines Are Perpendicular
final101 interactmath 9.6 #33

Solve the system of equations using substitution.

102) \[
\begin{align*}
  x + y &= -6 \\
  y &= 2x
\end{align*}
\]
A) \((-2, 4)\)  
B) \((-2, -4)\)  
C) \((2, 4)\)  
D) \((2, -4)\)

Answer: B

Objective: (10.3) Solve a System of Linear Equations Using the Substitution Method
final102 interactmath 10.2 #13,35

Solve the system of equations using elimination.

103) \[
\begin{align*}
  3x + y &= -30 \\
  5x - y &= 6
\end{align*}
\]
A) \((-3, -21)\)  
B) no solution  
C) infinitely many solutions  
D) \((-21, -3)\)

Answer: A

Objective: (10.4) Solve a System of Linear Equations Using the Elimination Method
final103 interactmath 10.3 #15

104) \[
\begin{align*}
  x + y &= -11 \\
  x - y &= -1
\end{align*}
\]
A) \((-6, -5)\)  
B) no solution  
C) \((6, -4)\)  
D) \((-7, -4)\)

Answer: A

Objective: (10.4) Solve a System of Linear Equations Using the Elimination Method
final104 interactmath 10.3 quick check 10.3.2

105) \[
\begin{align*}
  x + 6y &= 45 \\
  6x + 6y &= 30
\end{align*}
\]
A) infinite number of solutions  
B) \((-3, 8)\)  
C) \((-8, -3)\)  
D) no solution

Answer: B

Objective: (10.4) Solve a System of Linear Equations Using the Elimination Method
final105 interactmath 10.3 #11,13,17,21

106) \[
\begin{align*}
  x - 4y &= 17 \\
  -3x - 5y &= 51
\end{align*}
\]
A) \((-8, -5)\)  
B) \((-7, -6)\)  
C) \((7, -5)\)  
D) no solution

Answer: B

Objective: (10.4) Solve a System of Linear Equations Using the Elimination Method
final106 interactmath 10.3 #17
Solve the system of equations using elimination. State whether the system is inconsistent, or consistent and dependent.

\[
\begin{align*}
107) \quad \begin{cases} 
  x + y = 4 \\
  x + y = -6
\end{cases}
\end{align*}
\]

A) no solution; consistent and dependent
B) infinitely many solutions; inconsistent
C) infinitely many solutions; consistent and dependent
D) no solution; inconsistent

Answer: D

Objective: (10.4) Solve a System of Linear Equations Using the Elimination Method

Add the polynomials. Express your answer in standard form.

\[
108) \quad (-2x^2 - 5x - 6) + (8x^2 - 5x + 4)
\]

A) \(-16x^2 - 5x - 2\)
B) \(6x^4 - 10x^2 - 2\)
C) \(6x^2 - 10x - 2\)
D) \(6x^2 - 5x - 2\)

Answer: C

Objective: (11.2) Simplify Polynomials by Combining Like Terms

Subtract the polynomials. Express your answer in standard form.

\[
109) \quad (7x^2 + 20x + 5) - (5x^2 - 4x - 12)
\]

A) \(2x^2 + 24x - 7\)
B) \(2x^2 + 25x - 7\)
C) \(43x^9\)
D) \(2x^2 + 24x + 17\)

Answer: D

Objective: (11.2) Simplify Polynomials by Combining Like Terms

Evaluate the polynomial for the given value.

\[
110) \quad -2x^2 + 8x - 3 \quad x = -3
\]

A) 39
B) 3
C) \(-9\)
D) \(-45\)

Answer: D

Objective: (11.2) Evaluate Polynomials

Simplify the expression.

\[
111) \quad (-8x^9y^8z)^2
\]

A) \(-8x^{11}y^{10}z\)
B) \(-64x^{18}y^{16}z^2\)
C) \(16x^{18}y^{16}z^2\)
D) \(64x^{18}y^{16}z^2\)

Answer: D

Objective: (11.3) Simplify Exponential Expressions Containing Products

Multiply the monomials.

\[
112) \quad (-6z^2)(5z^3)
\]

A) \(-30z^5\)
B) \(30z^6\)
C) \(4500z^5\)
D) \(-30z^6\)

Answer: A

Objective: (11.3) Multiply a Monomial by a Monomial

\[
113) \quad (7x^5y)(8x^2y^4)
\]

A) \(56x^8y^5\)
B) \(56x^8y^4\)
C) \(56x^{12}y^4\)
D) \(15x^8y^4\)

Answer: A

Objective: (11.3) Multiply a Monomial by a Monomial
114) \((m^3n^4 \cdot 4mn^6)\)
   A) \(-16m^4n^7\)   B) \(4m^{13}n^{10}\)   C) \(-4m^{12}n^{24}\)   D) \(-4m^{13}n^{10}\)

Answer: D

Objective: (11.3) Multiply a Monomial by a Monomial

Use the Distributive Property to find the product.

115) \(-11x(6x - 4)\)
   A) \(-66x^2 - 4x\)   B) \(-22x^2\)   C) \(-66x^2 + 44x\)   D) \(6x^2 + 44x\)

Answer: C

Objective: (11.4) Multiply a Polynomial by a Monomial

116) \(2y^2(3y^2 + 3y - 7)\)
   A) \(6y^4 + 6y - 14\)   B) \(5y^4 + 5y - 5\)   C) \(6y^4 + 6y^3 - 14y^2\)   D) \(6y^4 + 6y^2 - 14\)

Answer: C

Objective: (11.4) Multiply a Polynomial by a Monomial

117) \((x + 3)(x + 3)\)
   A) \(x^2 + 5x + 9\)   B) \(x^2 + 6x + 9\)   C) \(x^2 + 6x + 5\)   D) \(x^2 + 9x + 6\)

Answer: B

Objective: (11.4) Multiply Two Binomials Using the Distributive Property

Find the product using the FOIL method.

119) \((y - 1)(y - 4)\)
   A) \(y^2 - 5y + 4\)   B) \(2y + 4\)   C) \(2y^2 - 4\)   D) \(y^2 + 5y - 4\)

Answer: A

Objective: (11.4) Multiply Two Binomials Using the FOIL Method

120) \((b - 8)(b + 1)\)
   A) \(b^2 - 7b - 8\)   B) \(2b - 8\)   C) \(2b^2 + 8\)   D) \(b^2 + 7b + 8\)

Answer: A

Objective: (11.4) Multiply Two Binomials Using the FOIL Method

121) \((4x + 3)(x - 9)\)
   A) \(x^2 - 27x - 33\)   B) \(x^2 - 33x - 34\)   C) \(4x^2 - 33x - 27\)   D) \(4x^2 - 34x - 27\)

Answer: C

Objective: (11.4) Multiply Two Binomials Using the FOIL Method
122) 

A) \(18n^2 + 90np + 5p^2\)  
B) \(36n^2 + 33np + 5p^2\)  
C) \(18n + 33np + 5p\)  
D) \(18n^2 + 33np + 5p^2\)  
Answer: D

Objective: (11.4) Multiply Two Binomials Using the FOIL Method

123) 

A) \(63x^2 - 18xy - 8y^2\)  
B) \(63x^2 + 28xy - 8y^2\)  
C) \(63x^2 + 10xy - 8y^2\)  
D) \(63x^2 + 10xy + 10y^2\)  
Answer: C

Objective: (11.4) Multiply Two Binomials Using the FOIL Method

Find the product of the sum and difference of two terms.

124) 

A) \(x^2 + 8x - 16\)  
B) \(x^2 - 16\)  
C) \(x^2 - 8x - 16\)  
D) \(x^2 - 8\)  
Answer: B

Objective: (11.4) Multiply the Sum and Difference of Two Terms

125) 

A) \(49p^2 - 81\)  
B) \(p^2 - 81\)  
C) \(49p^2 + 126p - 81\)  
D) \(49p^2 - 126p - 81\)  
Answer: A

Objective: (11.4) Multiply the Sum and Difference of Two Terms

126) 

A) \(4x^2 - 20xy - 25y^2\)  
B) \(4x^2 + 25y^2\)  
C) \(4x^2 + 20xy - 25y^2\)  
D) \(4x^2 - 25y^2\)  
Answer: D

Objective: (11.4) Multiply the Sum and Difference of Two Terms

Find the product.

127) 

A) \(n^2 + 225\)  
B) \(n^2 + 30n + 225\)  
C) \(225n^2 + 30n + 225\)  
D) \(n + 225\)  
Answer: B

Objective: (11.4) Square a Binomial

128) 

A) \(w^2 + 121\)  
B) \(w^2 - 22w + 121\)  
C) \(w + 121\)  
D) \(121w^2 - 22w + 121\)  
Answer: B

Objective: (11.4) Square a Binomial
129) $(4x + 3y)^2$
   A) $4x^2 + 9y^2$  
   B) $4x^2 + 24xy + 9y^2$  
   C) $16x^2 + 24xy + 9y^2$  
   D) $16x^2 + 9y^2$
   Answer: C  
   Objective: (11.4) Square a Binomial
   final129 interactmath 11.3 #77

130) $(6x - 11y)^2$
   A) $36x^2 + 121y^2$  
   B) $6x^2 + 121y^2$  
   C) $36x^2 - 132xy + 121y^2$  
   D) $6x^2 - 132xy + 121y^2$
   Answer: C  
   Objective: (11.4) Square a Binomial
   final130 interactmath 11.7 #79

Find an algebraic expression that represents the area of the shaded region.

131) 
   $7x - 10$
   A) $49x^2 - 140x + 100$  
   B) $49x^2 + 140x + 100$  
   C) $49x^2 - 140x - 100$  
   D) $49x^2 + 140x - 100$
   Answer: A  
   Objective: (11.4) Square a Binomial
   final131 interactmath 11.3 #129

Find the product.

132) $(y - 7)(y^2 + 7y - 4)$
   A) $y^3 - 14y^2 - 53y + 28$  
   B) $y^3 + 45y - 28$  
   C) $y^3 - 53y + 28$  
   D) $y^3 + 14y^2 + 53y - 28$
   Answer: C  
   Objective: (11.4) Multiply a Polynomial by a Polynomial
   final132 interactmath 11.3 #83

133) $(7x - 1)(x^2 - 4x + 1)$
   A) $7x^3 - 27x^2 + 3x - 1$  
   B) $7x^3 + 29x^2 - 11x + 1$  
   C) $7x^3 - 28x^2 + 7x + 1$  
   D) $7x^3 - 29x^2 + 11x - 1$
   Answer: D  
   Objective: (11.4) Multiply a Polynomial by a Polynomial
   final133 interactmath 11.3 #87

134) $(2y + 11)(5y^2 - 2y - 9)$
   A) $10y^3 + 51y^2 - 40y - 99$  
   B) $10y^3 + 59y^2 + 40y + 99$  
   C) $65y^2 - 26y - 117$  
   D) $10y^3 - 4y^2 - 18y + 11$
   Answer: A  
   Objective: (11.4) Multiply a Polynomial by a Polynomial
   final134 interactmath 11.3 #87
Use the Quotient Rule to simplify. All variables are nonzero.

135) \( \frac{56m^{20}n^{14}}{7m^{19}n^{10}} \)

A) \( 8n^4 \)  
B) \( 8mn^4 \)  
C) \( 56mn^4 \)  
D) \( 8m^{39}n^{24} \)

Answer: B

Objective: (11.5) Simplify Exponential Expressions Using the Quotient Rule
final135 interactcmath 11.4 #41

136) \( \frac{24x^6y^{11}}{6x^4y^6} \)

A) \( 4x^3y^5 \)  
B) \( 4x^2y^4 \)  
C) \( x^3y^5 \)  
D) \( 4x^2y^3 \)

Answer: A

Objective: (11.5) Simplify Exponential Expressions Using the Quotient Rule
final136 interactcmath 11.4 #41

Use the Quotient to a Power Rule to simplify. All variables are nonzero.

137) \( \left( \frac{5^3}{6} \right)^2 \)

A) \( \frac{6}{125} \)  
B) \( \frac{125}{6} \)  
C) \( \frac{216}{125} \)  
D) \( \frac{125}{216} \)

Answer: D

Objective: (11.5) Simplify Exponential Expressions Using the Quotient to a Power Rule
final137 interactcmath 11.4 #43

138) \( \left( \frac{6t^3}{3s^4} \right)^2 \)

A) \( \frac{4t^6}{s^4} \)  
B) \( \frac{4t^6}{s^8} \)  
C) \( \frac{4t^5}{s^6} \)  
D) \( \frac{2t^6}{s^8} \)

Answer: B

Objective: (11.5) Simplify Exponential Expressions Using the Quotient to a Power Rule
final138 interactcmath 11.4 #49

Use the Zero Exponent Rule to simplify. All variables are nonzero.

139) \( 9^0 \)

A) \( 1 \)  
B) \( 9 \)  
C) \( 0 \)  
D) \( -1 \)

Answer: A

Objective: (11.5) Simplify Exponential Expressions Using Zero as an Exponent
final139 interactcmath 11.4 #51

140) \( \left( \frac{5}{7} \right)^0 \)

A) \( 0 \)  
B) \( \frac{5}{7} \)  
C) \( 2 \)  
D) \( 1 \)

Answer: D

Objective: (11.5) Simplify Exponential Expressions Using Zero as an Exponent
final140 interactcmath 11.4 #53
Use the Negative Exponent Rules to simplify. Write the answer with positive exponents. All variables are nonzero.

141) $7^{-1}$
   A) $-\frac{1}{7}$ B) $7$ C) $\frac{1}{7}$ D) $-7$

Answer: C
Objective: (11.5) Simplify Exponential Expressions Using Negative Exponents
final141 interactmath 11.4 #63

142) $3^{-4}$
   A) $-81$ B) $\frac{1}{81}$ C) $\frac{1}{12}$ D) $81$

Answer: B
Objective: (11.5) Simplify Exponential Expressions Using Negative Exponents
final142 interactmath 11.4 #63

Use the Laws of Exponents to simplify. Write the answer with positive exponents. All variables are nonzero.

143) $(-5x^6y^{-7})(3x^{-1}y)$
   A) $-15x^5y^8$ B) $\frac{-15x^5}{y^6}$ C) $\frac{-15x^7}{y^8}$ D) $\frac{-2x^5}{y^6}$

Answer: B
Objective: (11.5) Simplify Exponential Expressions Using the Laws of Exponents
fin143 interactmath 11.4 #109

Divide and simplify.

144) $\frac{21r^7 - 35r^4}{7r}$
   A) $3r^8 - 5r^5$ B) $3r^6 - 5r^3$ C) $21r^6 - 35r^3$ D) $3r^7 - 5r^4$

Answer: B
Objective: (11.6) Divide a Polynomial by a Monomial
final144 interactmath 11.5 #13

145) $\frac{24x^2 + 20x - 11}{4x}$
   A) $6x - 6$ B) $6x^2 + 5x - \frac{11}{4}$ C) $24x + 20 - \frac{11}{4x}$ D) $6x + 5 - \frac{11}{4x}$

Answer: D
Objective: (11.6) Divide a Polynomial by a Monomial
final145 interactmath 11.5 #31,33,41

146) $\frac{14x^4 - 6x^3 + 8x^2}{2x^3}$
   A) $7x - 3$ B) $7x - 6x^3 + \frac{4}{x}$ C) $7x - 3 + \frac{4}{x}$ D) $11x - 3$

Answer: C
Objective: (11.6) Divide a Polynomial by a Monomial
fin146 interactmath 11.5 #21
Find the quotient using long division.

\[ \frac{x^2 + 13x + 40}{x + 8} \]

A) \( x^2 + 5 \)  
B) \( x + 5 \)  
C) \( x - 32 \)  
D) \( x^3 - 32 \)

Answer: B

Objective: (11.6) Divide a Polynomial by a Binomial
final147 interactmath 11.5 #31

\[ \frac{3m^2 + 17m - 56}{m + 8} \]

A) \( 3m - 7 + \frac{6}{m - 7} \)  
B) \( m - 7 \)  
C) \( 3m - 7 \)  
D) \( 3m + 7 \)

Answer: C

Objective: (11.6) Divide a Polynomial by a Binomial
final148 interactmath 11.5 #33

Factor the GCF from the polynomial.

\[ 4x^5 + 16x^3 \]

A) \( 4x^3(x^2 + 4) \)  
B) \( x^5(4x^2 + 16) \)  
C) \( 4x^4(x + 4) \)  
D) \( 4(x^5 + 4x^3) \)

Answer: A

Objective: (12.2) Factor Out the Greatest Common Factor in Polynomials
final149 interactmath 12.2 #47,51

\[ 20x^5y + 36xy^6 \]

A) \( 4y(5x^5 + 9xy^5) \)  
B) \( 4xy(5x^4 + 9y^5) \)  
C) \( xy(20x^4 + 36y^5) \)  
D) \( 4x(5x^4y + 9y^6) \)

Answer: B

Objective: (12.2) Factor Out the Greatest Common Factor in Polynomials
final150 interactmath 12.2 #47,51

Factor by grouping.

\[ 5x + 50 + xy + 10y \]

A) \( (x + 10y)(5 + y) \)  
B) \( (y + 10)(x + 5) \)  
C) \( (x + 10)(5 + y) \)  
D) \( (y + 10)(5x + y) \)

Answer: C

Objective: (12.2) Factor Polynomials by Grouping
final151

\[ 3x - 36 + xy - 12y \]

A) \( (x - 12y)(3 + y) \)  
B) \( (y - 12)(x + 3) \)  
C) \( (x - 12)(3 + y) \)  
D) \( (y - 12)(3x + y) \)

Answer: C

Objective: (12.2) Factor Polynomials by Grouping
final152

Factor the trinomial completely. If the trinomial cannot be factored, say it is prime.

\[ x^2 + x - 20 \]

A) \( (x - 5)(x + 4) \)  
B) \( (x + 1)(x - 20) \)  
C) prime  
D) \( (x - 4)(x + 5) \)

Answer: D

Objective: (12.3) Factor Trinomials of the Form \( x^2 + bx + c \)
final153 interactmath 12.2 #63

\[ x^2 + 2x - 35 \]

A) \( (x + 7)(x - 5) \)  
B) prime  
C) \( (x - 7)(x + 5) \)  
D) \( (x - 7)(x + 1) \)

Answer: A

Objective: (12.3) Factor Trinomials of the Form \( x^2 + bx + c \)
final154 interactmath 12.2 #35
155) \( x^2 - x - 12 \)
   A) \((x + 3)(x - 4)\)  
   B) \((x + 1)(x - 12)\)  
   C) \((x + 4)(x - 3)\)  
   D) prime

   Answer: A

   Objective: (12.3) Factor Trinomials of the Form \(x^2 + bx + c\)

156) \( x^2 - 6x + 8 \)
   A) \((x - 4)(x - 2)\)  
   B) \((x + 4)(x - 2)\)  
   C) prime  
   D) \((x + 4)(x + 1)\)

   Answer: A

   Objective: (12.3) Factor Trinomials of the Form \(x^2 + bx + c\)

157) \( x^2 + 13xy + 36y^2 \)
   A) \((x - 9y)(x + y)\)  
   B) prime  
   C) \((x + 9y)(x + 4y)\)  
   D) \((x + 9y)(x - 7)\)

   Answer: C

   Objective: (12.3) Factor Trinomials of the Form \(x^2 + bx + c\)

158) \( 4x^2 + 12x - 40 \)
   A) \(4(x + 2)(x - 5)\)  
   B) \(4(x - 2)(x + 5)\)  
   C) \(4(x + 8)(x - 5)\)  
   D) \((x - 2)(4x + 20)\)

   Answer: B

   Objective: (12.3) Factor Out the GCF, Then Factor \(x^2 + bx + c\)

Factor the polynomial completely using the trial and error method.

159) \( 6x^2 - x - 7 \)
   A) \((6x - 1)(x + 7)\)  
   B) \((6x - 7)(x + 1)\)  
   C) \((6x + 1)(x - 7)\)  
   D) \((6x + 7)(x - 1)\)

   Answer: B

   Objective: (12.4) Factor \(ax^2 + bx + c\), \(a \neq 1\), Using Trial and Error

Factor completely. If the polynomial is prime, state so.

160) \( 81x^2 - 64 \)
   A) \((9x + 8)^2\)  
   B) prime  
   C) \((9x + 8)(9x - 8)\)  
   D) \((9x - 8)^2\)

   Answer: C

   Objective: (12.5) Factor Difference of Two Squares

161) \( 4x^2 - \frac{4}{9} \)
   A) \(\left(2x + \frac{2}{3}\right)^2\)  
   B) \(\left(2x - \frac{2}{3}\right)^2\)  
   C) \(\left(4x + \frac{4}{9}\right)\left(4x - \frac{2}{9}\right)\)  
   D) \(\left(2x + \frac{3}{2}\right)\left(2x - \frac{3}{2}\right)\)

   Answer: D

   Objective: (12.5) Factor Difference of Two Squares

162) \( 81x^2 - 16y^2 \)
   A) \((9x + 4y)(9x - 4y)\)  
   B) prime  
   C) \((9x + 4y)^2\)  
   D) \((9x - 4y)^2\)

   Answer: A

   Objective: (12.5) Factor Difference of Two Squares
Factor completely. If a polynomial cannot be factored, say it is prime.

163) \(a^2 - 2ab - 24b^2\)
   A) \((a - 4b)(a + 6b)\)  
   B) prime  
   C) \((a - 4b)(a + b)\)  
   D) \((a + 4b)(a - 6b)\)

Answer: D

Objective: (12.6) Factor Polynomials Completely

164) \(x^3 - 5x^2 - 6x\)
   A) \(x(x - 6)(x + 1)\)  
   B) \(x(x - 6)(x - 1)\)  
   C) \(x(x^2 - 5x - 6)\)  
   D) \(x(x + 6)(x + 1)\)

Answer: A

Objective: (12.6) Factor Polynomials Completely

165) \(5y^3 - 5y^2 - 100y\)
   A) \(5y(y - 4)(y + 5)\)  
   B) \((y - 4)(5y^2 + 25)\)  
   C) \(5y(y + 4)(y - 5)\)  
   D) \((5y^2 + 20y)(y - 5)\)

Answer: C

Objective: (12.6) Factor Polynomials Completely

Solve the equation by factoring.

166) \(x(4x + 12) = 0\)
   A) \(\left\{0, \frac{1}{3}\right\}\)  
   B) \(\{0, 3\}\)  
   C) \(\{0, -3\}\)  
   D) \(\left\{0, -\frac{1}{3}\right\}\)

Answer: C

Objective: (12.7) Solve Quadratic Equations Using the Zero-Product Property

167) \(5x(6x + 30) = 0\)
   A) \(\{0, -5\}\)  
   B) \(\{0, -5, 5\}\)  
   C) \(\left\{0, -\frac{1}{5}\right\}\)  
   D) \(\{0, 5\}\)

Answer: A

Objective: (12.7) Solve Quadratic Equations Using the Zero-Product Property

168) \((y - 7)(9y + 26) = 0\)
   A) \(\left\{-\frac{26}{26}, 7\right\}\)  
   B) \(\left\{-7, \frac{26}{9}\right\}\)  
   C) \(\left\{-7, \frac{9}{26}\right\}\)  
   D) \(\left\{-\frac{26}{9}, 7\right\}\)

Answer: D

Objective: (12.7) Solve Quadratic Equations Using the Zero-Product Property

169) \(12n^2 + 44n = 0\)
   A) \(\{0\}\)  
   B) \(\left\{-\frac{11}{3}, 44\right\}\)  
   C) \(\left\{-\frac{11}{3}\right\}\)  
   D) \(\left\{\frac{11}{3}, 0\right\}\)

Answer: D

Objective: (12.7) Solve Quadratic Equations Using the Zero-Product Property

170) \(x^2 + 2x - 48 = 0\)
   A) \(\{-8, 6\}\)  
   B) \(\{8, -6\}\)  
   C) \(\{8, 6\}\)  
   D) \(\{-8, 1\}\)

Answer: A

Objective: (12.7) Solve Quadratic Equations Using the Zero-Product Property
171) \(x^2 - 17x + 72 = 0\)
   A) \([-9, -8]\)  B) \([9, 8]\)  C) \([72, 0]\)  D) \([-9, 8]\)

Answer: B

Objective: (12.7) Solve Quadratic Equations Using the Zero-Product Property

172) \(2x^2 - 3x - 5 = 0\)
   A) \(\left\{\frac{2}{5}, 0\right\}\)  B) \(\left\{\frac{2}{5}, -1\right\}\)  C) \(\left\{\frac{5}{2}, -1\right\}\)  D) \(\left\{\frac{5}{2}, 1\right\}\)

Answer: C

Objective: (12.7) Solve Quadratic Equations Using the Zero-Product Property

173) \(x^2 - x = 42\)
   A) \([6, 7]\)  B) \([-6, -7]\)  C) \([1, 42]\)  D) \([-6, 7]\)

Answer: D

Objective: (12.7) Solve Quadratic Equations Using the Zero-Product Property

174) \(x^2 = 2x\)
   A) \([2]\)  B) \([0, -2]\)  C) \([0, 2]\)  D) \([-2]\)

Answer: C

Objective: (12.7) Solve Quadratic Equations Using the Zero-Product Property

Simplify the rational expression. Assume that no variable has a value which results in a denominator with a value of zero.

175) \(\frac{y^2 + 12y + 27}{y^2 + 13y + 36}\)
   A) \(\frac{12y + 27}{13y + 36}\)  B) \(-\frac{y^2 + 12y + 27}{y^2 + 13y + 36}\)  C) \(\frac{y + 3}{y + 4}\)  D) \(\frac{12y + 3}{13y + 4}\)

Answer: C

Objective: (13.2) Simplify Rational Expressions

Perform the indicated operation.

176) \(\frac{8m^2p}{33p^4} \cdot \frac{11mp^3}{24m^7}\)
   A) \(\frac{m^4}{9}\)  B) \(-\frac{1}{9m^{10}}\)  C) \(\frac{m^{10}}{9}\)  D) \(\frac{1}{9m^4}\)

Answer: D

Objective: (13.3) Multiply Rational Expressions

177) \(\frac{z^2 - 12z + 36}{z^2 - 9} \cdot \frac{z^2 - 3z}{z - 6}\)
   A) \(\frac{z(z - 6)}{z - 3}\)  B) \(\frac{(z - 6)}{z + 3}\)  C) \(\frac{z(z - 6)}{z + 3}\)  D) \(\frac{z}{z - 3}\)

Answer: C

Objective: (13.3) Multiply Rational Expressions
178) \( \frac{4m^9n^3}{5m} + \frac{9m^3n^8}{8n^3} \)  

A) \( \frac{32m^6}{45n^8} \)  
B) \( \frac{32m^5}{45n^2} \)  
C) \( \frac{32m^6}{45n^3} \)  
D) \( \frac{32m^5}{45n^3} \)  

Answer: B  
Objective: (13.3) Divide Rational Expressions  
fin178 interactmath 13.2 quick check 13.2.3

179) \( \frac{x^2 - 8x + 16}{3x - 12} + \frac{2x - 8}{6} \)  

A) 1  
B) \( \frac{(x - 4)^2}{9} \)  
C) 6  
D) \( \frac{x^2 - 8x + 16}{(x - 4)^2} \)  

Answer: A  
Objective: (13.3) Divide Rational Expressions  
fin179 interactmath 13.2 #25

180) \( \frac{x^2 - 3x}{x^2 - 9} + \frac{x + 3}{x^2 + 6x + 9} \)  

A) \( \frac{x}{(x + 3)(x + 3)} \)  
B) \( -x \)  
C) \( \frac{1}{x} \)  
D) \( x \)  

Answer: D  
Objective: (13.3) Divide Rational Expressions  
fin180 interactmath 13.2 #25

181) \( \frac{m^2 - 9m}{m - 6} + \frac{18}{m - 6} \)  

A) \( m + 3 \)  
B) \( m - 6 \)  
C) \( \frac{m^2 - 9m + 18}{m - 6} \)  
D) \( m - 3 \)  

Answer: D  
Objective: (13.4) Add Rational Expressions With a Common Denominator  
fin181 interactmath 13.3 quick check 13.3.4

Solve the equation and state the solution set.

182) \( \frac{x - 5}{9} = \frac{x + 3}{5} \)  

A) \{2\}  
B) \{13\}  
C) \{5\}  
D) \{ \frac{52}{45} \}  

Answer: B  
Objective: (13.8) Solve Equations Containing Rational Expressions  
fin182 interactmath 13.7 #19

183) \( \frac{3}{x} - \frac{1}{4} = \frac{5}{x} \)  

A) \( \{ \frac{5}{3} \} \)  
B) \{2\}  
C) \{-8\}  
D) \{8\}  

Answer: C  
Objective: (13.8) Solve Equations Containing Rational Expressions  
fin183 interactmath 13.7 #17
184) \[
\frac{2}{5x} - \frac{5}{3} = \frac{2}{15x} - \frac{5}{45}
\]

\[
\begin{align*}
A) & \left\{ \frac{6}{35} \right\} \\
B) & \left\{ \frac{3}{10} \right\} \\
C) & \left\{ \frac{3}{20} \right\} \\
D) & \left\{ \frac{12}{35} \right\}
\end{align*}
\]

Answer: A

Objective: (13.8) Solve Equations Containing Rational Expressions

Find the function value.

185) Find \( f(14) \) when \( f(x) = 2x + 12 \).

A) -16  
B) 40  
C) 29.2  
D) 16

Answer: B

Objective: (14.4) Find the Value of a Function

186) Find \( f(5) \) when \( f(x) = -7x + 6 \).

A) -1  
B) 41  
C) -29  
D) -35

Answer: C

Objective: (14.4) Find the Value of a Function

187) Find \( f(x - 3) \) when \( f(x) = -5x - 7 \).

A) -5x - 8  
B) -5x + 8  
C) -5x + 5  
D) -5x - 10

Answer: B

Objective: (14.4) Find the Value of a Function

188) Find \( f(3) \) when \( f(x) = x^2 + 3x - 4 \).

A) -4  
B) 4  
C) 22  
D) 14

Answer: D

Objective: (14.4) Find the Value of a Function

189) Find \( f(-9) \) when \( f(x) = |x| - 6 \).

A) 3  
B) -3  
C) 15  
D) -15

Answer: A

Objective: (14.4) Find the Value of a Function

190) \( f(x) = \frac{x + 5}{14x - 10} \); \( f(-10) \)

A) \( \frac{1}{26} \)  
B) \( -\frac{1}{12} \)  
C) \( \frac{1}{30} \)  
D) \( -\frac{1}{30} \)

Answer: C

Objective: (14.4) Find the Value of a Function

191) \( f(x) = \frac{x - 10}{3x + 13} \); \( f(-4) \)

A) 0  
B) 14  
C) 1  
D) -14

Answer: D

Objective: (14.4) Find the Value of a Function
192) \( f(x) = \frac{x^2 + 3}{x^3 + 3x} \), \( f(5) \)

A) \( \frac{28}{125} \)  
B) \( \frac{7}{32} \)  
C) \( \frac{5}{28} \)  
D) \( \frac{1}{5} \)

Answer: D

Objective: (14.4) Find the Value of a Function
final192 interactmath 14.3 #71

Find the domain of the function.

193) \( f(x) = \frac{2x - 3}{x + 5} \)

A) \( \{x | x \neq -5\} \)  
B) \( \left\{ x | x \neq -5, \frac{3}{2} \right\} \)  
C) \( \left\{ x | x \neq \frac{3}{2} \right\} \)  
D) \( \{x | x \neq 5\} \)

Answer: A

Objective: (14.4) Find the Domain of a Function
final193 interactmath 14.3 #75,79

Graph the function.

194) \( h(x) = x^2 - 1 \)

A)

B)
Solve the absolute value equation.

195) \(|x + 1| = 7\)
   A) \([-8, 6]\)  
   B) \([-6]\)  
   C) \([8, 6]\)  
   D) \(\emptyset\)

Answer: A  

Objective: (14.5) Graph a Function
fin194 interactmath14.1 #39

Solve the inequality. Graph the solution set, and state the solution set in interval notation.

196) \(|x + 18| < 7\)
   A) \((11, 25)\)
   B) \((-\infty, -25)\)
   C) \((-25, -11)\)
   D) \((-\infty, -11)\)

Answer: C  

Objective: (14.8) Solve Absolute Value Inequalities Involving < or ≤
fin195 interactmath 14.7 #45

fin196 interactmath 14.7 #67
197) \(|8k - 6| \geq 3\)

- A) \(\left[\frac{3}{8}, \frac{9}{8}\right]\)
- B) \(\left[\frac{3}{8}, \frac{9}{8}\right]\)
- C) \(\left[\frac{9}{8}, \infty\right]\)
- D) \(\left(-\infty, \frac{3}{8}\right] \cup \left[\frac{9}{8}, \infty\right)\)

Answer: D

Objective: (14.8) Solve Absolute Value Inequalities Involving \(>\) or \(\geq\)
fin197 interactmath 14.7 #79

Evaluate the square root.

198) \(\sqrt{\frac{64}{361}}\)

- A) \(\frac{8}{19}\)
- B) \(\frac{2}{5}\)
- C) \(\frac{9}{19}\)
- D) \(\frac{8}{45}\)

Answer: A

Objective: (15.2) Evaluate Square Roots of Perfect Squares
fin198 interactmath15.4 quick check 15.4.21

Evaluate the expression, if possible.

199) \(16^{1/4}\)

- A) 16
- B) 32
- C) 8
- D) 2

Answer: D

Objective: (15.3) Evaluate Expressions of the Form \(a^{(1/n)}\)
fin199 interactmath 15.2 #59,63

Simplify the radical expression. Assume that all variables represent positive real numbers.

200) \(\sqrt[4]{300k^7q^8}\)

- A) \(10k^3q^4\sqrt[4]{3}\)
- B) \(10k^7q^8\sqrt[4]{3k}\)
- C) \(10k^3q^4\sqrt[4]{3k}\)
- D) \(10q^4\sqrt[4]{3k^7}\)

Answer: C

Objective: (15.4) Use the Laws of Exponents to Simplify Radical Expressions
fin200 interactmath 15.4 #55
201) \( \sqrt[3]{343x^4y^5} \)

A) \( 7xy\sqrt[3]{xy^2} \)  
B) \( 7xy\sqrt[3]{xy} \)  
C) \( 7xy\sqrt[3]{xy^2} \)  
D) \( 3xy\sqrt[3]{xy^2} \)

Answer: C

Objective: (15.4) Use the Laws of Exponents to Simplify Radical Expressions

Use the product rule to simplify the expression. Assume that the variables can be any real number.

202) \( \sqrt[3]{48} \)

A) 12  
B) \( 4\sqrt[3]{3} \)  
C) 6  
D) \( 3\sqrt[3]{4} \)

Answer: B

Objective: (15.5) Use the Product Property to Simplify Radical Expressions

203) \( \sqrt[3]{32} \)

A) \( 2\sqrt[3]{8} \)  
B) 2  
C) \( 2\sqrt[3]{4} \)  
D) 8

Answer: C

Objective: (15.5) Use the Product Property to Simplify Radical Expressions

204) \( \sqrt[3]{-64a^8b^5} \)

A) \(-4a^2b\sqrt[3]{a^2b^2}\)  
B) \(4\sqrt[3]{a^2b^2}\)  
C) \(4ab\sqrt[3]{a^3b^3}\)  
D) \(4ab\sqrt[3]{a^2b^2}\)

Answer: A

Objective: (15.5) Use the Product Property to Simplify Radical Expressions

Evaluate the radical function at the indicated value.

205) \( f(x) = \sqrt[3]{2x - 1} \)

f(13)

A) 25  
B) 26  
C) 5  
D) 5.1

Answer: C

Objective: (15.8) Evaluate Functions Whose Rule Is a Radical Expression

Solve the equation.

206) \( \sqrt{2x} = 6 \)

A) \( \{3\} \)  
B) \( \{72\} \)  
C) \( \{12\} \)  
D) \( \{18\} \)

Answer: D

Objective: (15.9) Solve Radical Equations Containing One Radical

207) \( \sqrt{x + 5} = 6 \)

A) \( \{41\} \)  
B) \( \{121\} \)  
C) \( \{36\} \)  
D) \( \{31\} \)

Answer: D

Objective: (15.9) Solve Radical Equations Containing One Radical

208) \( \sqrt{18y - 9} = y + 4 \)

A) \( \{-4\} \)  
B) \( \{3\} \)  
C) \( \{-5\} \)  
D) \( \{5\} \)

Answer: D

Objective: (15.9) Solve Radical Equations Containing One Radical
Add or subtract.

209) $(2 - 7i) + (6 + 5i)$
A) $-8 + 2i$  B) $8 - 2i$  C) $8 + 2i$  D) $-4 + 12i$

Answer: B

Objective: (15.10) Add or Subtract Complex Numbers
fin209 interactmath 15.9 #43

210) $(3 + 6i) - (-9 + i)$
A) $12 + 5i$  B) $12 - 5i$  C) $-12 - 5i$  D) $-6 + 7i$

Answer: A

Objective: (15.10) Add or Subtract Complex Numbers
fin210 interactmath 15.9 #45

Multiply. Write the result in the form $a + bi$.

211) $(6 - 3i)(5 + 9i)$
A) $-27i^2 + 39i + 30$  B) $57 - 39i$  C) $57 + 39i$  D) $-6 + 69i$

Answer: C

Objective: (15.10) Multiply Complex Numbers
fin211 interactmath 15.9 #55

Divide.

212) $\frac{9 + 5i}{9 + 4i}$
A) $\frac{61}{65} + \frac{9}{65}i$  B) $\frac{101}{97} + \frac{9}{97}i$  C) $\frac{61}{97} - \frac{81}{97}i$  D) $\frac{101}{65} + \frac{9}{65}i$

Answer: B

Objective: (15.10) Divide Complex Numbers
fin212 interactmath 15.9 #91,93

Use the square root property to solve the equation.

213) $x^2 = 196$
A) $\{-14, 14\}$  B) $\{-15, 15\}$  C) $\{14\}$  D) $\{98\}$

Answer: A

Objective: (16.2) Solve Quadratic Equations Using the Square Root Property
fin213 interactmath 16.1 #19

214) $x^2 - 3 = 0$
A) $\left\{\frac{3}{2}\right\}$  B) $\{9\}$  C) $\{-\sqrt{3}, \sqrt{3}\}$  D) $\{\sqrt{3}\}$

Answer: C

Objective: (16.2) Solve Quadratic Equations Using the Square Root Property
fin214 interactmath 16.1 #21

215) $(x - 7)^2 = 4$
A) $\{9, 5\}$  B) $\{2, -2\}$  C) $\{11\}$  D) $\{5, -9\}$

Answer: A

Objective: (16.2) Solve Quadratic Equations Using the Square Root Property
fin215 interactmath 16.1 quick check 16.1.7

216) $(x + 4)^2 = 13$
A) $\{9\}$  B) $\{-\sqrt{13}, \sqrt{13}\}$  C) $\{-4 - \sqrt{13}, -4 + \sqrt{13}\}$  D) $\{4 - \sqrt{13}, 4 + \sqrt{13}\}$

Answer: C

Objective: (16.2) Solve Quadratic Equations Using the Square Root Property
fin216 interactmath 16.1 #37
Solve the equation by completing the square.

217) \( x^2 + 4x - 45 = 0 \)
   A) \([-5, 9]\) \quad B) \(\sqrt{7}, -1\) \quad C) \(5, -9\) \quad D) \(-36, -9\)
   Answer: C
   Objective: (16.2) Solve Quadratic Equations by Completing the Square
   fin172 interactmath 16.1 #53,55

Use the quadratic formula to solve the equation.

218) \( x^2 + 12x + 35 = 0 \)
   A) \([7, -5]\) \quad B) \([7, 5]\) \quad C) \([-7, -5]\) \quad D) \([35, 0]\)
   Answer: C
   Objective: (16.3) Solve Quadratic Equations Using the Quadratic Formula
   fin178 interactmath 16.2 #23

219) \( x^2 + 6x - 7 = 0 \)
   A) \([7, 1]\) \quad B) \([7, -1]\) \quad C) \([-7, 1]\) \quad D) \([-7, 0]\)
   Answer: C
   Objective: (16.3) Solve Quadratic Equations Using the Quadratic Formula
   fin179 interactmath 16.2 #23

220) \( x^2 - 14x + 49 = 0 \)
   A) \([-7]\) \quad B) \([-7, 7]\) \quad C) \([7]\) \quad D) \([-7 - i, -7 + i]\)
   Answer: C
   Objective: (16.3) Solve Quadratic Equations Using the Quadratic Formula
   fin180 interactmath 16.2 #23

221) \( x^2 + 12x + 14 = 0 \)
   A) \([6 + \sqrt{22}\] \quad B) \([6 - \sqrt{14}, 6 + \sqrt{14}]\)
   C) \([-6 - \sqrt{22}, -6 + \sqrt{22}]\) \quad D) \([-12 + \sqrt{14}]\)
   Answer: C
   Objective: (16.3) Solve Quadratic Equations Using the Quadratic Formula
   fin181 interactmath 16.2 #33,51,57

222) \( x^2 + 12x + 45 = 0 \)
   A) \([-6 - 9i, -6 + 9i]\) \quad B) \([-3, -9]\) \quad C) \([-6 - 3i, -6 + 3i]\) \quad D) \([-6 + 3i]\)
   Answer: C
   Objective: (16.3) Solve Quadratic Equations Using the Quadratic Formula
   fin182 interactmath 16.2 quick check 16.2.8

223) \( 3x^2 - 5x - 8 = 0 \)
   A) \(\left\{\frac{8}{3}, -1\right\}\) \quad B) \(\left\{\frac{3}{8}, 1\right\}\)
   C) \(\left\{\frac{3}{8}, -1\right\}\) \quad D) \(\left\{\frac{3}{8}, 0\right\}\)
   Answer: A
   Objective: (16.3) Solve Quadratic Equations Using the Quadratic Formula
   fin183 interactmath 16.2 #25

224) \( 4x^2 + 10x = -1 \)
   A) \(\left\{-\frac{10 - \sqrt{21}}{4}, -\frac{10 + \sqrt{21}}{4}\right\}\) \quad B) \(\left\{-\frac{5 - \sqrt{21}}{4}, -\frac{5 + \sqrt{21}}{4}\right\}\)
   C) \(\left\{-\frac{5 - \sqrt{21}}{8}, -\frac{5 + \sqrt{21}}{8}\right\}\) \quad D) \(\left\{-\frac{5 - \sqrt{29}}{4}, -\frac{5 + \sqrt{29}}{4}\right\}\)
   Answer: B
   Objective: (16.3) Solve Quadratic Equations Using the Quadratic Formula
   fin184 interactmath 16.2 #31
225) \(3x^2 + 10x + 4 = 0\)

A) \(\left\{ \frac{-5 - \sqrt{13}}{3}, \frac{-5 + \sqrt{13}}{3} \right\}\)

B) \(\left\{ \frac{-5 - \sqrt{13}}{6}, \frac{-5 + \sqrt{13}}{6} \right\}\)

C) \(\left\{ \frac{-5 - 3\sqrt{37}}{3}, \frac{-5 + 3\sqrt{37}}{3} \right\}\)

D) \(\left\{ \frac{-10 - \sqrt{13}}{3}, \frac{-10 + \sqrt{13}}{3} \right\}\)

Answer: A

Objective: (16.3) Solve Quadratic Equations Using the Quadratic Formula

fin225 interactmath16.2 #31

226) \(4x^2 + 1 = 3x\)

A) \(\left\{ \frac{3 - i\sqrt{7}}{8}, \frac{-3 + i\sqrt{7}}{8} \right\}\)

B) \(\left\{ \frac{-3 - i\sqrt{7}}{8}, \frac{3 + i\sqrt{7}}{8} \right\}\)

C) \(\left\{ \frac{3 - i\sqrt{7}}{8}, \frac{3 + i\sqrt{7}}{8} \right\}\)

D) \(\left\{ \frac{-3 - i\sqrt{7}}{8}, \frac{-3 + i\sqrt{7}}{8} \right\}\)

Answer: C

Objective: (16.3) Solve Quadratic Equations Using the Quadratic Formula

fin226 interactmath16.2 #35

227) \(x^2 + 10x + 34 = 0\)

A) \([-5 + 3i]\)

B) \([-5 - 9i, -5 + 9i]\)

C) \([-2, -8]\)

D) \([-5 - 3i, -5 + 3i]\)

Answer: D

Objective: (16.3) Solve Quadratic Equations Using the Quadratic Formula

fin227 interactmath 16.2 quick check 16.2.8

Sketch the graph of the quadratic function.

228) \(f(x) = x^2 + 3\)

A) 

B)
Objective: (16.5) Graph Quadratic Functions of the Form \( f(x) = x^2 + k \)

Sketch the graph of the quadratic function. Identify the vertex and axis of symmetry.

229) \( f(x) = (x + 2)^2 - 4 \)

A) vertex: \((-2, -4)\)
axis of symmetry: \( x = -2 \)

B) vertex: \((2, -4)\)
axis of symmetry: \( x = 2 \)
C) vertex: \((-2, -4)\)
axis of symmetry: \(x = -2\)

D) vertex: \((2, -4)\)
axis of symmetry: \(x = 2\)

Answer: A

Objective: (16.5) Graph Quadratic Functions of the Form \(f(x) = (x - h)^2\)
fin229 interactmath 16.4 #41

Graph the quadratic function.

230) \(f(x) = x^2 - 8x + 7\)
Answer: A

Objective: (16.5) Graph Quadratic Functions of the Form \( f(x) = ax^2 + bx + c \)

\( f(x) = -x^2 + 4x - 3 \)

231) \( f(x) = -x^2 + 4x - 3 \)
Answer: B

Objective: (16.5) Graph Quadratic Functions of the Form $f(x) = ax^2 + bx + c$

fin231 interactmath 16.5 #35

232) $f(x) = x^2 + 4x$
Determine the quadratic function whose graph is given.

A) \( f(x) = x^2 + 2x + 8 \)  
B) \( f(x) = x^2 + 2x - 8 \)  
C) \( f(x) = x^2 - 2x - 8 \)  
D) \( f(x) = -x^2 + 2x - 8 \)

Answer: B
A) $f(x) = -x^2 + 4x + 3$
B) $f(x) = x^2 + 4x + 3$
C) $f(x) = -x^2 + 4x - 3$
D) $f(x) = -x^2 - 4x - 3$

Answer: C

Objective: (16.5) Find Quadratic Function from Its Graph
fin234 interactmath 16.5 #27
Answer Key
Testname: AATFM0320234FININTER

1) A
2) A
3) B
4) B
5) B
6) C
7) C
8) C
9) A
10) A
11) A
12) C
13) D
14) B
15) C
16) D
17) C
18) B
19) D
20) C
21) B
22) D
23) D
24) A
25) C
26) B
27) B
28) A
29) D
30) D
31) A
32) A
33) A
34) B
35) C
36) D
37) C
38) A
39) A
40) A
41) A
42) B
43) C
44) C
45) C
46) C
47) C
48) B
49) C
50) D
Answer Key
Testname: AATFM0320234FININTER

51) C
52) D
53) A
54) C
55) D
56) D
57) A
58) D
59) A
60) C
61) B
62) C
63) C
64) A
65) A
66) C
67) D
68) C
69) B
70) A
71) A
72) B
73) D
74) B
75) B
76) C
77) C
78) A
79) B
80) A
81) C
82) B
83) A
84) D
85) B
86) A
87) D
88) C
89) B
90) B
91) B
92) D
93) D
94) C
95) C
96) A
97) B
98) B
99) C
100) A
Answer Key
Testname: AATFM0320234FININTER

101) A
102) B
103) A
104) A
105) B
106) B
107) D
108) C
109) D
110) D
111) D
112) A
113) A
114) D
115) C
116) C
117) B
118) C
119) A
120) A
121) C
122) D
123) C
124) B
125) A
126) D
127) B
128) B
129) C
130) C
131) A
132) C
133) D
134) A
135) B
136) A
137) D
138) B
139) A
140) D
141) C
142) B
143) B
144) B
145) D
146) C
147) B
148) C
149) A
150) B
Answer Key
Testname: AATFM0320234FININTER

151) C
152) C
153) D
154) A
155) A
156) A
157) C
158) B
159) B
160) C
161) D
162) A
163) D
164) A
165) C
166) C
167) A
168) D
169) D
170) A
171) B
172) C
173) D
174) C
175) C
176) D
177) C
178) B
179) A
180) D
181) D
182) B
183) C
184) A
185) B
186) C
187) B
188) D
189) A
190) C
191) D
192) D
193) A
194) A
195) A
196) C
197) D
198) A
199) D
200) C
Answer Key
Testname: AATFM0320234FININTER

201) C
202) B
203) C
204) A
205) C
206) D
207) D
208) D
209) B
210) A
211) C
212) B
213) A
214) C
215) A
216) C
217) C
218) C
219) C
220) C
221) C
222) C
223) A
224) B
225) A
226) C
227) D
228) B
229) A
230) A
231) B
232) B
233) B
234) C