Solve the real-world application numerically or graphically.

1) An auto repair shop charged a customer $369 to repair a car. The bill listed $54 for parts and the remainder for labor. If the cost of labor is $35 per hour, how many hours of labor did it take to repair the car?

    A) 9.5 hours   B) 9 hours   C) 10 hours   D) 8 hours

1) _____

Evaluate the function.

2) Find $f(2)$ when $f(x) = x^2 + 4x - 1$.

    A) -5   B) 11   C) -3   D) 13

2) _____

3) Find $f(0)$ when $f(x) = x^2 + 5x - 7$.

    A) 0   B) -7   C) 7   D) 49

3) _____

Solve.

4) $-7x + 5 > -8x + 6$

    A) $x \le 11$ B) $x > 1$ C) $x \ge 11$ D) $x < 1$

4) _____

5) $24x - 12 > 4(5x - 2)$

    A) $x < 1$ B) $x \le 1$ C) $x > 1$ D) $x \ge 1$

5) _____

6) $2x + 7(3x - 3) = 10 - 8x$

    A) $-\dfrac{11}{15}$ B) -1 C) 1 D) $-\dfrac{11}{31}$

6) _____

7) $4m^2 + 8m + 2 = 0$

    A) $m = \dfrac{-2 \pm \sqrt{2}}{8}$ B) $m = \dfrac{-2 \pm \sqrt{6}}{2}$ C) $m = \dfrac{-8 \pm \sqrt{2}}{2}$ D) $m = \dfrac{-2 \pm \sqrt{2}}{2}$

7) _____

8) A vendor sells hot dogs and bags of potato chips. A customer buys 3 hot dogs and 2 bags of potato chips for $10.50. Another customer buys 4 hot dogs and 3 bags of potato chips for $14.50. Find the cost of each item.

    A) $2.50 for a hot dog; $1.75 for a bag of potato chips
    B) $2.50 for a hot dog; $1.50 for a bag of potato chips
    C) $2.75 for a hot dog; $1.75 for a bag of potato chips
    D) $1.50 for a hot dog; $2.50 for a bag of potato chips

8) _____

9) $\dfrac{a}{5} - \dfrac{1}{5} = -3$

    A) 16   B) -14   C) -16   D) 14

9) _____

10) $\dfrac{p}{4} - \dfrac{3p}{8} = 2$

    A) $p = 16$ B) $p = -16$ C) $p = 2$ D) $p = -2$

10) _____

11) Jim has gotten scores of 60 and 96 on his first two tests. What score must he get on his third test to keep an average of 75 or better?

    A) at least 78   B) at least 69   C) at least 77   D) at least 67

11) _____

Write an equation for the line in slope-intercept form.

12) Passing through (5, 2) and parallel to the line whose equation is $y = -7x + 6$.　　　　　12) _____

   A) $y = -7x - 37$ B) $y = 7x - 37$ C) $y = -\dfrac{1}{7}x - \dfrac{37}{7}$ D) $y = -7x + 37$

Factor completely.

13) $u^2 - 3uv - 54v^2$　　　　　13) _____

   A) does not factor   B) $(u - 6v)(u + 9v)$ C) $(u - 6v)(u + v)$ D) $(u + 6v)(u - 9v)$

Evaluate, using the order of operations. If necessary, round your answer to the nearest thousandth.

14) $\dfrac{32 + 9 \cdot 9}{8^2 - 8 \cdot 6 + -15 - 1^3}$　　　　　14) _____

   A) $\dfrac{113}{40}$ B) 113   C) $\dfrac{113}{88}$ D) undefined

15) $4 \cdot 5 + 4 \cdot 8 + 9$　　　　　15) _____

   A) 549   B) 612   C) 61   D) 649

Multiply.

16) $(2x - 5y)^2$　　　　　16) _____

   A) $4x^2 + 25y^2$ B) $4x^2 - 20xy + 25y^2$
   C) $2x^2 + 25y^2$ D) $2x^2 - 20xy + 25y^2$

Use the general strategy to factor completely.
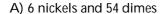
17) $49k^3m + 42k^2m^2 + 9km^3$　　　　　17) _____

   A) $km(7k - 3m)^2$ B) $km(7k + 3m)(7k - 3m)$
   C) $km(7k + 3m)^2$ D) does not factor

Write a system of equations for the application and solve using the elimination method.

18) Jamil always throws loose change into a pencil holder on his desk and takes it out every two weeks.　　18) _____
   This time it is all nickels and dimes. There are 9 times as many dimes as nickels, and the value of
   the dimes is $5.95 more than the value of the nickels. How many nickels and dimes does Jamil
   have?
   A) 6 nickels and 54 dimes   B) 63 nickels and 7 dimes
   C) 7 nickels and 63 dimes   D) 8 nickels and 72 dimes

Solve the equation for y.

19) $18x + 5y = 18$　　　　　19) _____

   A) $y = -\dfrac{18}{5}x + \dfrac{18}{5}$ B) $y = 18x - 18$ C) $y = \dfrac{18}{5}x - \dfrac{18}{5}$ D) $y = \dfrac{18}{5}x + \dfrac{18}{5}$

Solve the formula for the specified variable.

20) $P = 2L + 2W$ for W　　　　　20) _____

   A) $W = P - L$ B) $W = \dfrac{P - 2L}{2}$ C) $W = P - 2L$ D) $W = \dfrac{P - L}{2}$