1. Simplify the expression $-[-(-8.94)]$.

A. -8.94

B. $-1/(8.94)$

C. $1/(8.94)$

D. 8.94

2. A bookstore stacked biology lab manuals in stacks of 100 each. Each lab manual is $\frac{3}{4}$ of an inch thick. What is the height of each stack?

A. 96 in

B. 78 in

C. 90 in

D. 72 in

E. 75 in

F. 69 in

3. Calculate the sum using only pencil and paper. $-30+47$

A. 21

B. 17

C. 27

D. 15

E. 13

F. 22

G. 14

H. 16

4. Calculate the product using only pencil and paper. $\frac{11}{10} \cdot \frac{3}{2} \cdot \frac{3}{11}$

A. $\frac{27}{80}$

B. $\frac{9}{20}$

C. $\frac{9}{40}$

D. $\frac{9}{5}$

E. $\frac{3}{20}$

F. $\frac{3}{5}$

G. $\frac{3}{10}$

H. $\frac{9}{10}$

5. Calculate the value of the expression. $143 \div (11 + 2)$

A. $Undefined$

B. -45

C. 15

D. 11

E. 45

F. -15

6. Use the formula $I = PRT$ to calculate the interest for an investment of $1000 at 8 percent for 4 years. Round your answer to the nearest dollar.

A. 403

B.352

C. 381

D.392

E. 362

F.371

G. 320

H.341

7. The point $(6, -4)$ lies

A. in Quadrant I

B. in Quadrant IV

C. in Quadrant II

D. on the y axis.

E. on the x axis.

F. in Quadrant III

8. The sequence 2, 4, 8, 16, 32, 64 is

A. an arithmetic sequence with common difference -4

B. an arithmetic sequence with common difference 2

C. not an arithmetic sequence

D. an arithmetic sequence with common difference -8

E. an arithmetic sequence with common difference 8

F. an arithmetic sequence with common difference 4

G. an arithmetic sequence with common difference -2

9. A roll of wire 900 ft long has 2 pieces each of length x cut from it. Write a function $f(x)$ that models the length of wire remaining on the roll and evaluate and interpret $f(20)$.

A. $f(20) = 660$. This means that 660 ft of wire will remain after cutting off 20 pieces having length 2 ft.

B. $f(20) = 460$. This means that 460 ft of wire will remain after cutting off 20 pieces having length 2 ft.

C. $f(20) = 660$. This means that 660 ft of wire will remain after cutting off 2 pieces having length 20 ft.

D. $f(20) = 860$. This means that 860 ft of wire will remain after cutting off 2 pieces having length 20 ft.

E. $f(20) = 460$. This means that 460 ft of wire will remain after cutting off 2 pieces having length 20 ft.

F. $f(20) = 960$. This means that 960 ft of wire will remain after cutting off 2 pieces having length 20 ft.

G. $f(20) = 960$. This means that 960 ft of wire will remain after cutting off 20 pieces having length 2 ft.

H. $f(20) = 860$. This means that 860 ft of wire will remain after cutting off 20 pieces having length 2 ft.

10. The figure below is a rhombus. Express the perimeter of the rhombus as a function of x and include appropriate units in your answer.

10 cm

x cm
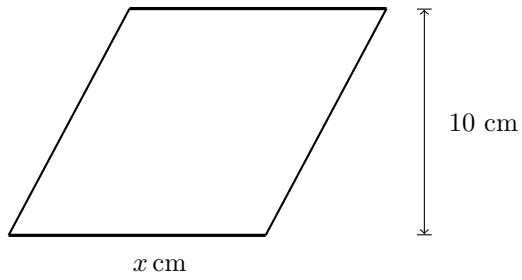
A. $f(x) = 10x$ cm^2

B. $f(x) = 10x$ cm

C. $f(x) = x + 10$ cm^2

D. $f(x) = 2x + 20$ cm

E. $f(x) = 4x$ cm

F. $f(x) = 40$ cm

G. $f(x) = 2x + 20$ cm^2

H. $f(x) = x + 10$ cm

11. Determine the point of intersection of the two lines below.
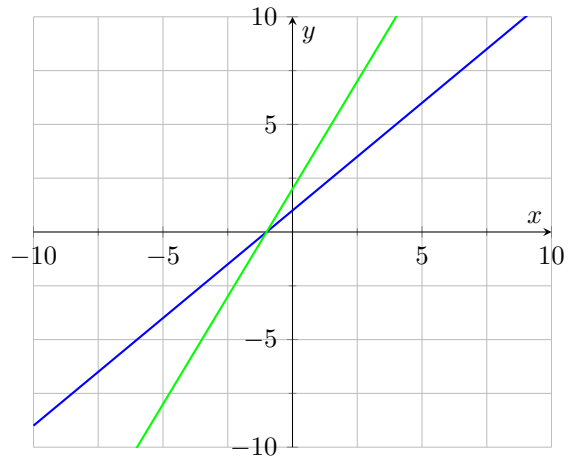
A. The two graphs intersect at $(0, 1)$.

B. The two graphs intersect at $(-1, 0)$.

C. The two graphs intersect at $(-2, -1)$.

D. The two graphs intersect at $(2, 3)$.

E. The two graphs intersect at $(-3, -2)$.

F. The two graphs intersect at $(-4, -3)$.

12. Which ordered pair below is a solution of $y = -7x + 4$.

A. $(-2, 14)$

B. $(-1, 12)$

C. $(4, -24)$

D. $(-3, 27)$

13. Solve the following linear equation $-4x = 4x + 3$.

A. $\frac{1}{8}$

B. $\frac{3}{2}$

C. $\frac{3}{16}$

D. $-\frac{3}{16}$

E. $-\frac{1}{8}$

F. $\frac{9}{8}$

G. $-\frac{3}{8}$

H. $-\frac{3}{32}$

14. Solve the following linear equation $5x + 3 = -3x + 1$.

A. $-\frac{1}{2}$

B. $-\frac{1}{4}$

C. $\frac{1}{4}$

D. $\frac{1}{16}$

E. $-\frac{1}{8}$

F. 1

G. $\frac{3}{4}$

H. $\frac{1}{2}$

15. The area of the rectangle shown below is 80 yd^2. Find the value of z and include appropriate units in your answer.

2z + 1 yd

9 yd

A. $\frac{71}{36}$ yd

B. $\frac{71}{90}$ yd

C. $\frac{71}{72}$ yd^2

D. $\frac{71}{18}$ yd

E. $\frac{71}{54}$ yd

F. $\frac{71}{6}$ yd^2

G. $\frac{71}{9}$ yd^2

H. $\frac{142}{9}$ yd^2

16. If five times the sum of eight times x and four is nine times the sum of six times x and two, what is the value of x?

A. $\frac{1}{28}$

B. $\frac{1}{14}$

C. $-\frac{1}{21}$

D. $\frac{1}{7}$

E. $-\frac{4}{7}$

F. $\frac{1}{21}$

G. $-\frac{1}{7}$

H. $\frac{4}{7}$

17. Solve $S = \frac{n}{2}(a + l)$ for the variable n (sum of an arithmetic sequence)

A. $n = \frac{S}{2} - (a + l)$

B. $n = \frac{S}{2(a+l)}$

C. $n = \frac{S}{2a+l}$

D. $n = 2S - 1 - (a + l)$

E. $n = S - \frac{1}{2} - (a + l)$

F. $n = \frac{2S}{a-l}$

G. $n = S - 2 - (a + l)$

H. $n = \frac{2S}{a+l}$

18. Solve $y - y_0 = m(x - x_0)$ for the variable m

A. $m = y - y_0 - (x - x_0)$

B. $m = \frac{y - y_0}{x} - x_0$

C. $m = \frac{y - y_0}{x x_0}$

D. $m = \frac{y - y_0}{x + x_0}$

E. $m = \frac{y - y_0}{x - x_0}$

F. $m = \frac{y - y_0}{x} + x_0$

G. $m = \frac{y + y_0}{x + x_0}$

H. $m = y - y_0 - x - x_0$

19. A manufacturer found that 3 computer chips out of 100 computer chips were defective. How many computer chips would we expect to be defective in a shipment of 500 computer chips? Round your answer to the nearest whole unit.

A. We would expect about 17 computer chips to be defective.

B. We would expect about 20 computer chips to be defective.

C. We would expect about 18 computer chips to be defective.

D. We would expect about 23 computer chips to be defective.

E. We would expect about 11 computer chips to be defective.

F. We would expect about 15 computer chips to be defective.

G. We would expect about 9 computer chips to be defective.

H. We would expect about 16 computer chips to be defective.

20. Two old friends live in two different towns which are 240 miles apart. On the phone they decide to meet up for old times sake. After getting off the phone they get in their vehicles and start driving toward one another to meet up somewhere for lunch. One friend is driving their car at rate of of 55 mi/h, and the other friend, who drives an old truck, travels 2 mi/h slower. How long will it take the two to meet? Round your answer to the nearest tenth.

A. It will take 2.2 hours to meet.

B. It will take 1.8 hours to meet.

C. It will take 1.6 hours to meet.

D. It will take 2.7 hours to meet.

E. It will take 2.1 hours to meet.

F. It will take 2 hours to meet.

G. It will take 2.3 hours to meet.

H. It will take 2.5 hours to meet.

Answers

1. A.

2. E.

3. B.

4. B.

5. D.

6. G.

7. B.

8. C.

9. D.

10. F.

11. B.

12. C.

13. G.

14. B.

15. D.

16. D.

17. H.

18. E.

19. F.

20. A.