

Name: \_\_\_\_\_

- 1) 156 is 240% of what number?  
 A) 65  
 B) 6,500  
 C) 650  
 D) 6.5

- 2) 81 is what percent of 108?

*Show your work.*

*Answer:* \_\_\_\_\_%

- 3) Write the comparison of 12 pounds to 9 pounds as a ratio in simplest form.

- A)  $\frac{5}{3}$   
 B) 4:3  
 C)  $\frac{3}{4}$   
 D)  $\frac{7}{3}$

- 4) 0.085% of 1,200 is what number?

- A) 0.7  
 B) 10.2  
 C) 113.6  
 D) 1.02

- 5) Which is a better buy, 2 quarts of orange juice for \$2.78 or 1.5 quarts for \$2.25?

*Show your work.*

*Answer:* \_\_\_\_\_

- 6) In a square with each side measuring 6, what is the ratio of the perimeter to the area?

Perimeter = $4s$ Area = $s^2$
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*Show your work.*

*Answer:* \_\_\_\_\_

- 7) Which of the following expressions equals -7 when  $a = -2$ ,  $b = 4$ , and  $c = -6$ .

- A)  $3c \cdot a + b^2$   
 B)  $3c \div a + b^2$   
 C)  $3c \cdot a - b^2$   
 D)  $3c \div a - b^2$

- 8) Write the expression below in exponential notation.

$$5 \cdot 5 \cdot 5 \cdot 7 \cdot 7 \cdot 11 \cdot 11$$

- A)  $5 \cdot 7^2 \cdot 11^2$   
 B)  $5 \cdot 7 \cdot 11^7$   
 C)  $5^3 \cdot 7^2 \cdot 11^2$   
 D)  $5^2 \cdot 7^2 \cdot 11^2$

- 9) Is  $x = 3$  the solution for  $4x - 2 + 7 = 17$ ?

*Show your work.*

*Answer:* \_\_\_\_\_

- 10) Solve the given equation for the variable.

$$5r - 23 = -68$$

- A)  $r = -18$   
 B)  $r = -9$   
 C)  $r = -11$   
 D)  $r = -7$

- 11) If the area of a circle is  $144\pi$  millimeters squared, what is the radius of the circle?

Area = $\pi r^2$
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- A) 144 millimeters  
 B) 6 millimeters  
 C) 24 millimeters  
 D) 12 millimeters

- 12) Jennifer has 5 times as many CD's now as she had a year ago. If she had  $x$  CD's a year ago, represent how many CD's she has now.

- A)  $5x$   
 B)  $x \div 5$   
 C)  $x + 5$   
 D)  $x - 5$

- 13) Solve:  $12 - 6(3 - 5) \div 4$

- A) 0  
 B) 6  
 C) 15  
 D) -6

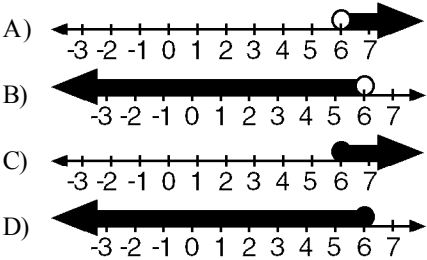
14) The formula  $H = -16T^2 + V_0 T$  represents the height of an object thrown upward from the ground, where  $H$  is the height,  $T$  is the time and  $V_0$  is the initial velocity. If a ball is thrown upward from the ground with an initial velocity of 54 feet per second, find its height 3 seconds after being thrown.

Show your work.

Answer: \_\_\_\_\_ feet

15) Tricia owns 11 fewer books than Melissa. If Melissa has  $x$  books, how many books does Tricia own?  
 A)  $x - 11$                               C)  $x + 11$   
 B)  $11x$                                      D)  $11 - x$

16) Which of the following represents the graph of the inequality  $6 \geq x$ ?



17) What is the capacity, in liters, of a rectangular prism having the dimensions of 50 centimeters by 20 centimeters by 350 centimeters?

$$\text{Volume of Prism} = \ell wh$$

$$1,000 \text{ cubic centimeters} = 1 \text{ liter}$$

- A) 350,000 liters                              C) 350 liters  
 B) 0.350 liter                                 D) 3,500 liters

18) How many cubic units are in the volume of a cube that measures 12 units on each side?

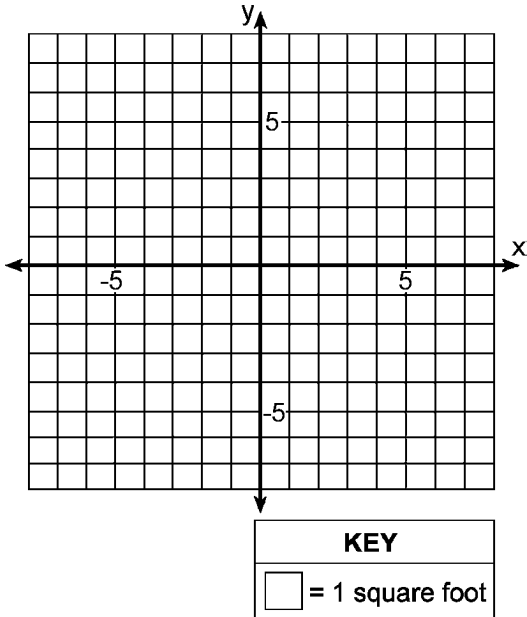
$$V = s^3$$

Show your work.

Answer: \_\_\_\_\_ units<sup>3</sup>

19) The coordinates of a polygon are as follows:

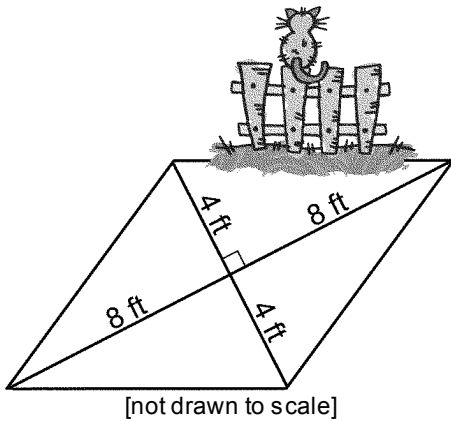
- (1,1), (4,4), (6,4), (7,1)



Using the coordinates and the grid above, what is the area of the polygon?

- A) 10.5 square feet                              C) 14 square feet  
 B) 24 square feet                                D) 12 square feet

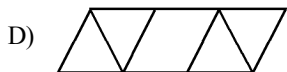
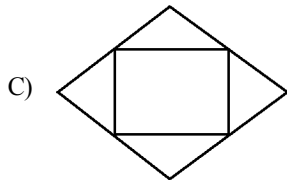
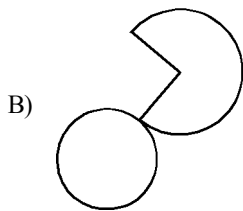
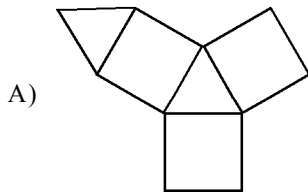
- 20) Janet planted a garden in her back yard. Janet divided her garden into 4 sections.



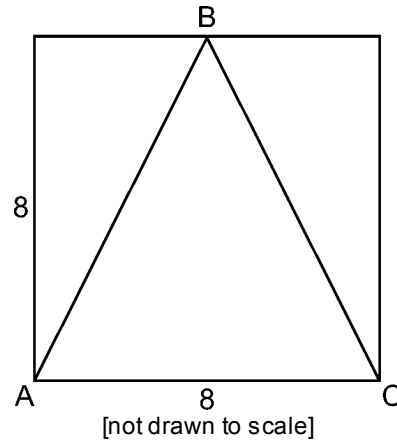
$$\text{Area of triangle} = \frac{1}{2}bh$$

What is the area of Janet's total garden?

- A) 24 square feet                      C) 82 square feet  
 B) 64 square feet                      D) 128 square feet
- 21) Which of the following nets, when folded, will form a triangular prism?



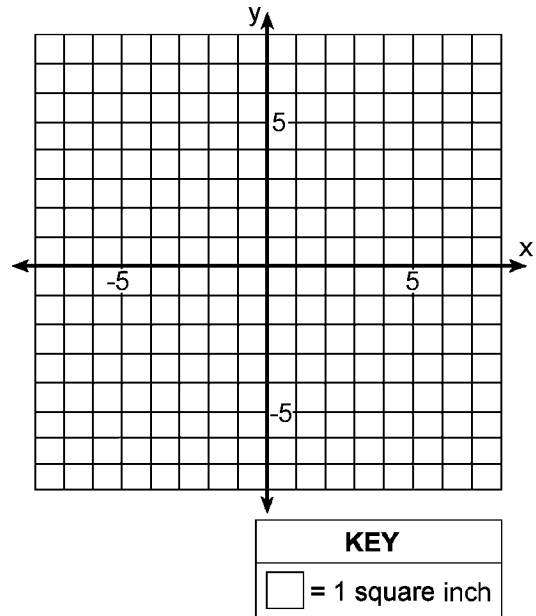
- 22) Find the area of triangle ABC inscribed (drawn inside) in the following square.



$$\text{Area} = \frac{1}{2}bh$$

- A) 21 square units                      C) 25 square units  
 B) 32 square units                      D) 64 square units
- 23) The coordinates of a triangle are as follows:

$(-6,-2), (1,-7), (-6,-7)$



Using the coordinates and the given grid, what is the area of the triangle?

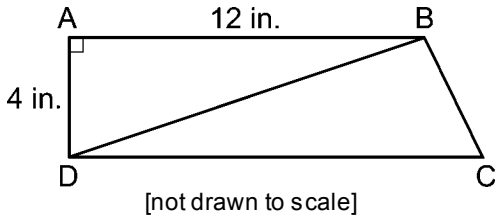
- A) 18.5 square inches                      C) 21 square inches  
 B) 20 square inches                      D) 17.5 square inches

- 24) What would be a reasonable estimate for the volume of rectangular solid that has a length of 3.3 centimeters, a height of 2.4 centimeters, and a height of 3.5 centimeters?

$$V = lwh$$

- A) 32 cubic cm                      C) 24 cubic cm  
 B) 27 cubic cm                      D) 28 cubic cm

- 25) Two triangles are put together to form a trapezoid. The area of triangle BCD is 28 square inches.



$$\text{Area of triangle} = \frac{1}{2}bh$$

What is the area of this trapezoid?

*Show your work.*

*Answer:* \_\_\_\_\_ in.<sup>2</sup>

- 26) Given the following data:

10, 8, 9, 16, 19, 15, 20, 16, 21, 22, 19

Which of the following is the box-and-whisker graph for this data?

- A)
- B)
- C)
- D)

- 27) Find the range of the following set of numbers:

20, 27, 35, 32, 28, 32

*Answer:* \_\_\_\_\_

- 28) The number of requests for assistance from a local telephone exchange for a five-day period were as follows:

1,630, 2,960, 4,210, 2,439, 1,429

Find the median number of requests.

*Answer:* \_\_\_\_\_ requests

- 29) Given below the daily high temperatures in April for two U.S. cities.

**High Temperatures  
in April (°F)**

Newport, RI	Chicago, IL
70	53
72	56
65	60
81	57
76	65
77	64
86	62
74	55
72	59

What the median of Chicago's daily high temperatures?

*Answer:* \_\_\_\_\_ °F

- 30) A quality control team of a toy company wants to know the expected life span of the toy. Which one of the following statistical studies would be **most** useful?

- A) testing the first 20 toys manufactured  
 B) testing the last 10 toys manufactured each day  
 C) testing 5 of the toys manufactured  
 D) testing every 50th toy manufactured

31) Find the range of the following set of numbers:

39, 44, 41, 41, 53, 46

**Answer:** \_\_\_\_\_

32) A science class weighed each one of the guinea pigs in their classroom cage. The guinea pigs' weights are recorded below.

0.49 kg, 0.27 kg, 0.19 kg, 0.29 kg, 0.23 kg, 0.37 kg,  
0.22 kg, 0.29 kg, 0.16 kg, 0.37 kg, 0.21 kg

What is the mode of the guinea pigs' weights?

- A) 0.23 kg and 0.29 kg
- B) 0.28 kg and .10 kg
- C) 0.29 kg and 0.37 kg
- D) 0.33 kg and .21 kg

33) Find the median of the following set of numbers:

11, 16, 12, 11, 13

- A) 12
- B) 13
- C) 11
- D) 14

34) Find the mode of the following set of numbers:

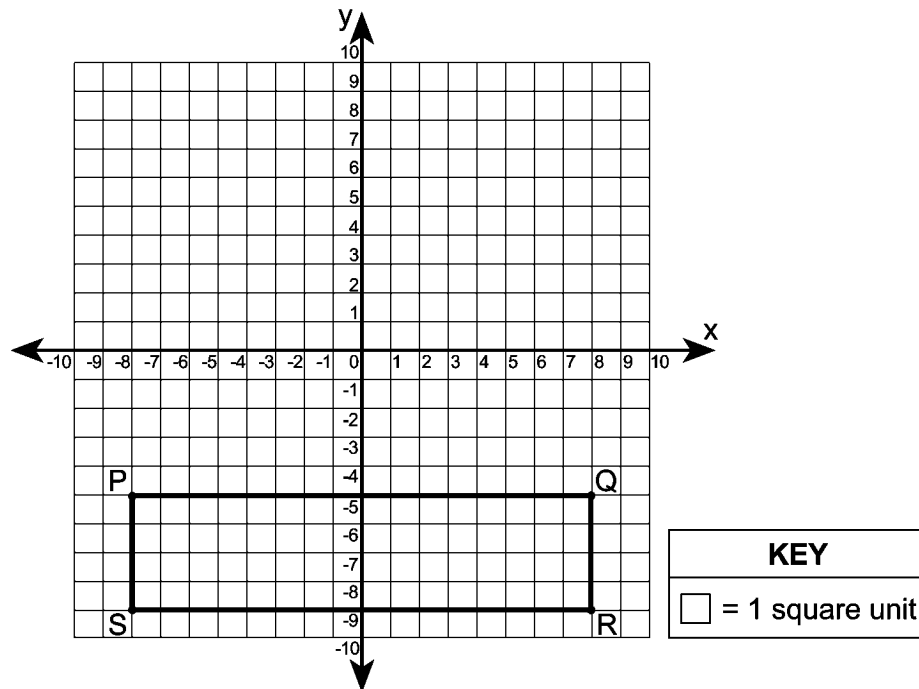
56, 50, 54, 57, 54, 55

**Answer:** \_\_\_\_\_

35) Jennifer is taking measurements of her daughter's height over a period of one year. What type of graph should Jennifer use to display her data?

- A) line graph
- B) pictograph
- C) circle graph
- D) bar graph

36) What is the area of the rectangle with coordinates as shown below?



- A) 40 square units
- B) 64 square units
- C) 45 square units
- D) 62 square units