

Name: _____

Saturday, April 5, 2014

MS319

Saturday Tutoring Program

General Review

6th Grade

Saturday Tutoring Program 6th Grade Mathematics Practice. Saturday, April 5, 2014.

1. Add

$$8.64 + 7.098 + 10.9901$$

- A. 15.5281
- B. 16.84701
- C. 26.7281
- D. 27.611

- 2.

$$6x + 3 = 3(2x + 3)$$

Which statement correctly explains whether the equation is true or not?

- A. It is true because $6x$ equals $3 \times 2x$.
- B. It is not true because 3×3 does not equal 3.
- C. It is true because the terms on the left are multiples of 3.
- D. It is not true because all the x values should be on the same side of the equation.

3. Sheila put a new lightbulb into a light socket. The lightbulb was on for 24 hours a day and burned out after 1,806 hours. Sheila did the work below to determine how many days the lightbulb lasted.

$$\begin{array}{r} 75 \\ 24 \overline{) 1,806} \\ \underline{-168} \\ 126 \\ \underline{-120} \\ 6 \end{array}$$

Sheila needs to finish the calculation to find how long, in days, the lightbulb lasted. Which statement about Sheila's calculations is true?

- A. Sheila completed the calculation by subtracting $24 - 6$ to get 18 and found that the lightbulb lasted 75.18 days.
- B. Sheila completed the calculation by dividing $6 \div 24$ to get 0.25 and found that the lightbulb lasted 75.25 days.
- C. Sheila completed the calculation by dividing $24 \div 6$ to get 4 and found that the lightbulb lasted 75.4 days.
- D. Sheila completed the calculation by adding on 0.6 of a day since the remainder is 6 and found that the lightbulb lasted 75.6 days.

4. Multiply.

$$6.23 \times 9.3$$

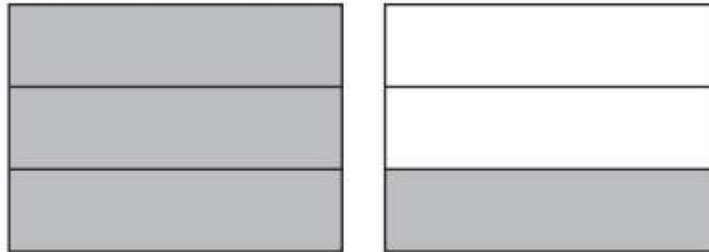
- A. 57.939
 - B. 74.76
 - C. 579.39
 - D. 747.6
5. Charlotte invested \$100 per year into a business for 3 years. The total value of her investment after 3 years is represented by the algebraic expression below, where x is the growth in value each year.

$$100(x^3 + x^2 + x)$$

What is the total value of her investment when $x = 2$?

Show your work.

6. Corrine brought $1\frac{1}{3}$ pounds of sand home from the beach. The shaded part of the rectangles shows how many pounds of sand Corrine brought home from the beach.



Corrine put the sand in bottles to give to friends. She put $\frac{2}{9}$ of a pound of sand in each bottle. What is the **greatest** number of bottles Corrine can put sand in?

- A. 4 bottles
B. 6 bottles
C. 8 bottles
D. 9 bottles
7. A box of cookies costs \$4. Freeman has \$34. The inequality below can be used to find the numbers of boxes of cookies, x , Freeman can buy with \$34.

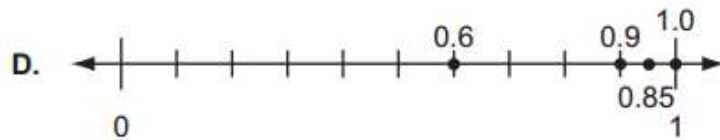
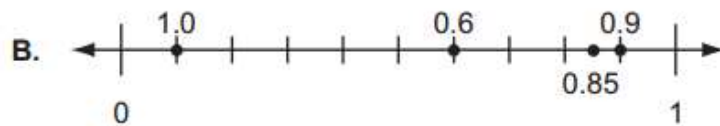
$$4x \leq 34$$

Which statement describes all the possible numbers of boxes of cookies Freeman can buy with \$34?

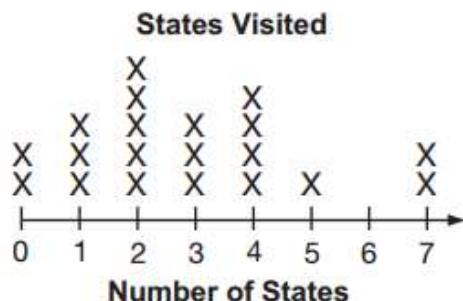
- A. He can buy 8 boxes of cookies or fewer.
B. He can buy 9 boxes of cookies or fewer.
C. He can buy 30 boxes of cookies or fewer.
D. He can buy 38 boxes of cookies or fewer.

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8. Travel-size toothpaste tubes can be purchased in the following weights: 0.9 ounce, 0.85 ounce, 1.0 ounce, and 0.6 ounce. Which number line represents the weights, in ounces, of the travel-size toothpaste tubes?



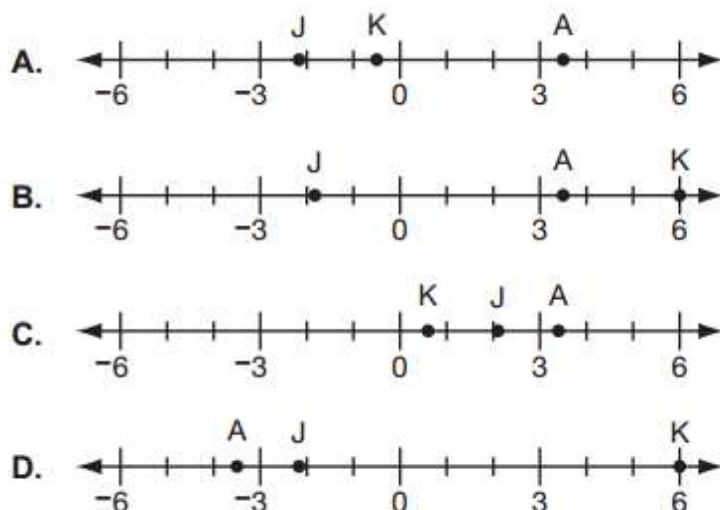
9. Benny asked 20 students how many states, besides Louisiana, they had visited. The line plot below shows the results.



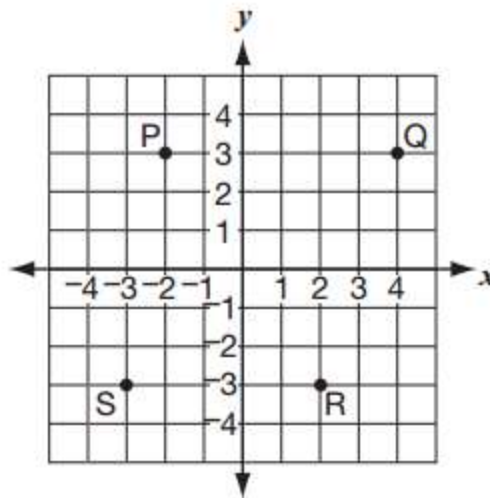
Which statement **best** describes the distribution of the data from Benny's survey?

- A. Half of the students had visited exactly 2 states.
 B. Half of the students had visited 2 or more states.
 C. Half of the students had visited 2 or fewer states.
 D. Half of the students had visited the same 2 states.
10. Amanda, Javier, and Kris each measure the change in their hair lengths over a year.
- Amanda's hair length (A) is 3.4 inches longer than last year.
 - Javier's hair length (J) is 2.1 inches shorter than last year.
 - Kris's hair length (K) is 0.6 inches shorter than last year.

Which number line **best** represents the changes in hair lengths of each person using points A, J, and K?



11. Galina plotted the points below on a coordinate grid.



Which two points are exactly 6 units apart on the coordinate grid?

- A. P and Q
- B. Q and R
- C. R and S
- D. S and P

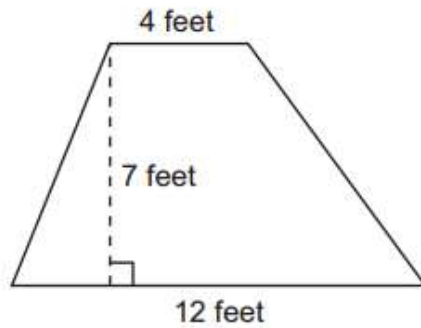
- 12.

$$4(2x + 10y)$$

Which expression is equivalent to the one shown?

- A. $8(x + 5y)$
- B. $8x + 10y$
- C. $8(x + 10y)$
- D. $8x + 14y$

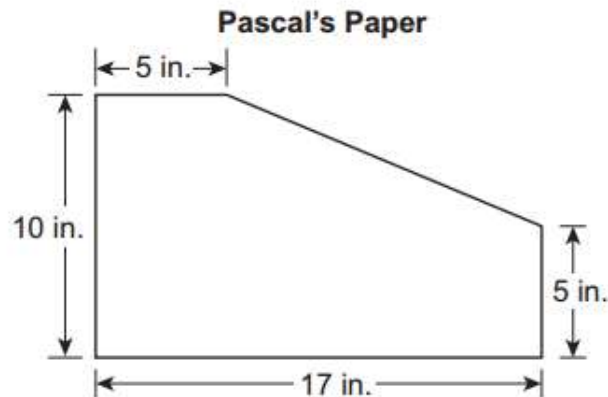
13. The top of a display counter at a store is in the shape of a trapezoid. The lengths of the front, back, and width, in feet, of the top of the display counter are shown below.



What is the area of the top of the display counter?

Show your work.

14. Pascal had a rectangular piece of paper. He cut off a corner of the paper. The shape below is what was left.



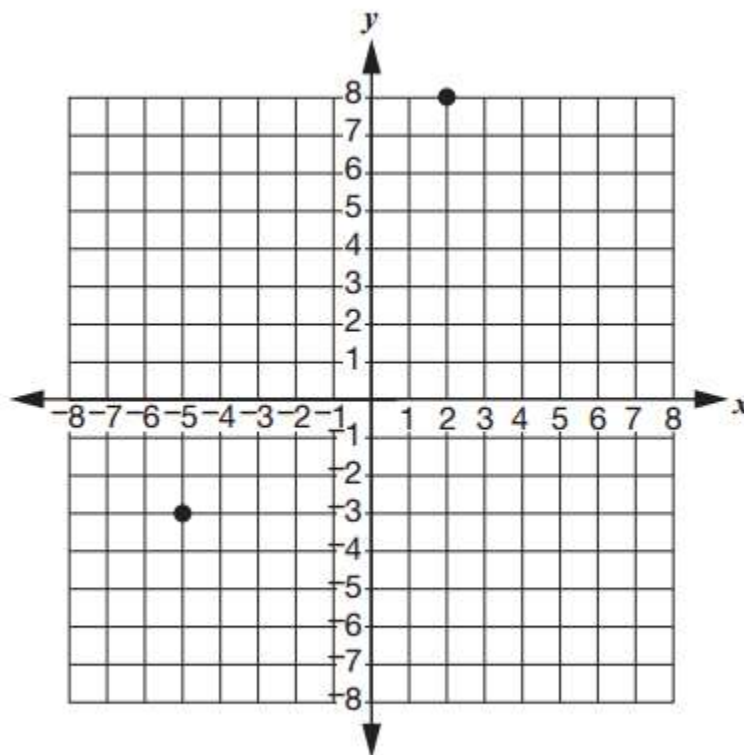
What is the area, in square inches, of the shape that was left?

Show your work.

15. Samuel has a hamster cage that is a rectangular prism. It is $20\frac{1}{2}$ inches long, 12 inches deep, and $10\frac{1}{4}$ inches tall. What is the volume, in cubic inches, of Samuel's hamster cage?

Show your work.

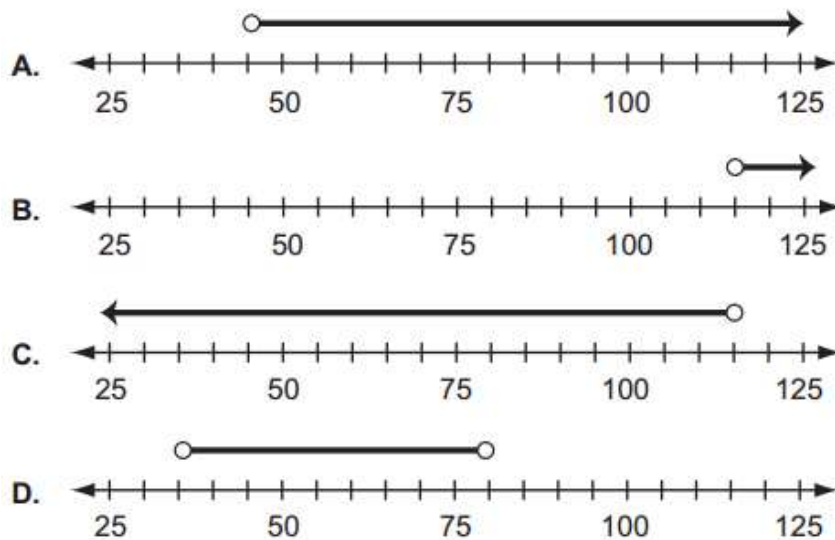
16. Two of the vertices of a rectangle are plotted on the coordinate grid below.



Which ordered pairs could be the other two vertices of the rectangle?

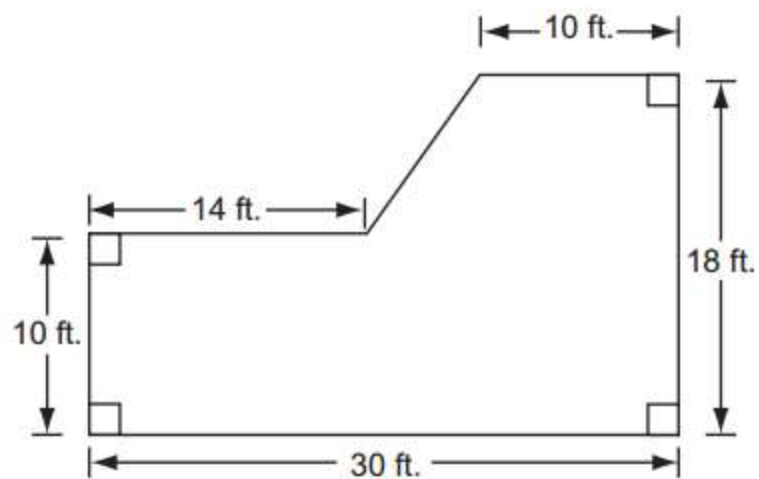
Show your work or explain your work.

17. Gene has \$35. He will earn more than \$80 next week. He will use all his money to buy clothes. Which number line shows all the possible amounts of money, in dollars, he will have after next week to buy clothes?



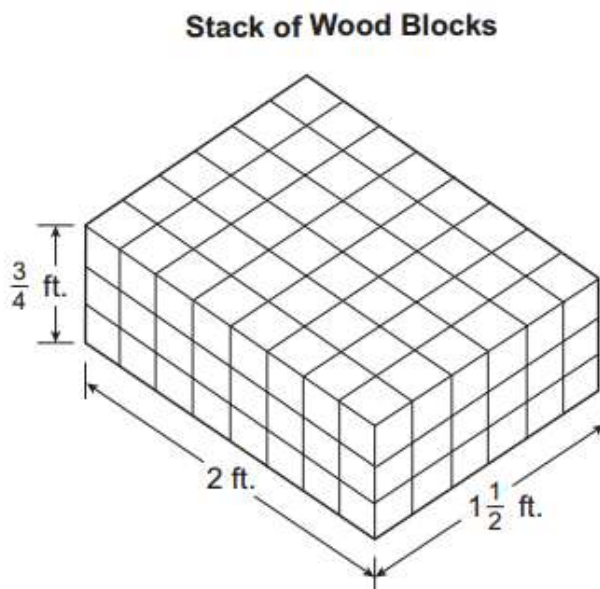
18. The figure below shows a diagram of Laura's front porch.

Laura's Front Porch



What is the area of Laura's front porch?

19. Desiree has a stack of wood blocks. The edge length of each wood block is $\frac{1}{4}$ of a foot. The stack is in the shape of a rectangular prism as shown below.

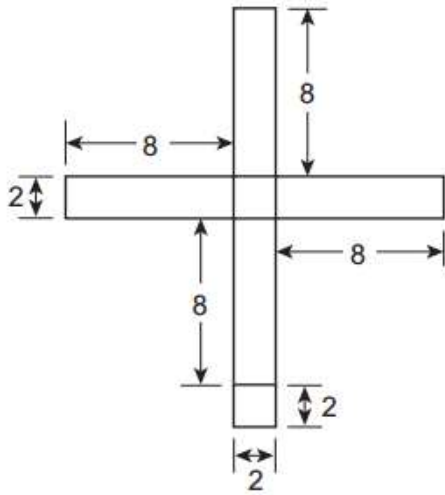


What is the volume, in cubic feet, of the stack of wood blocks?

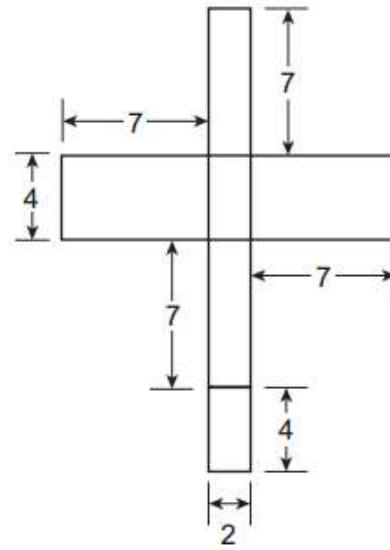
Show your work or explain your work.

20. Which diagram is of a net of a rectangular prism with a surface area of 78 square units?

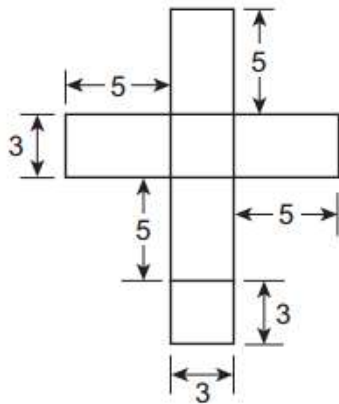
A.



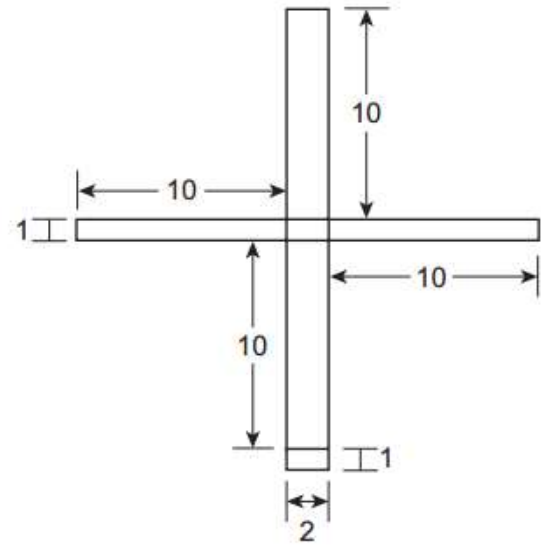
C.



B.

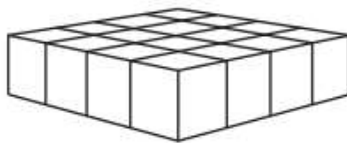


D.



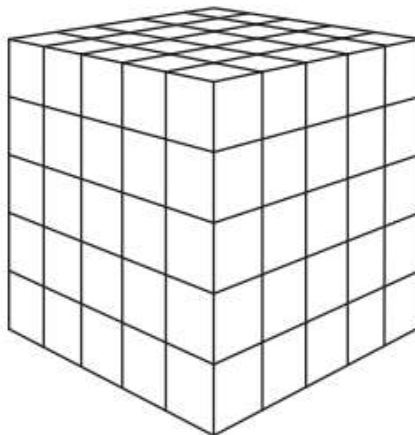
21. Kyle has a pile of cube-shaped blocks that measure 1 inch on each side.

A. He arranged some of the blocks to create the figure shown.



Using an exponent greater than 1, write an expression whose value is equal to the number of blocks Kyle used to create the figure shown above.

B. He arranged another set of blocks to create the figure below.



Using an exponent greater than 1, write an expression whose value is equal to the number of blocks Kyle used to create this figure.

C. Kyle made a third figure, a cube, using more than 1 block. Kyle used a whole number and an exponent of 3 to write an expression that represented the total number of blocks in the cube. He then used a whole number and an exponent of 2 to write a different expression to represent the total number of blocks in the cube. He did not use any operations other than the exponents in his two expressions. What are two different expressions Kyle could have written to represent the total number of blocks in the third figure? Show or explain why your two expressions are correct.

22.