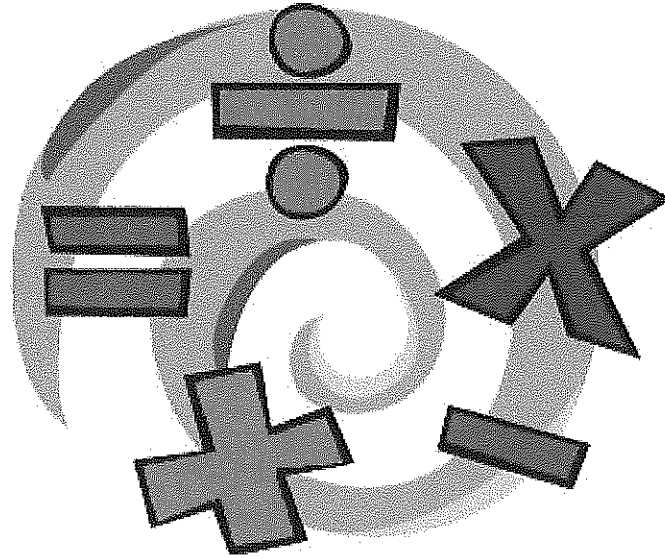


**8<sup>th</sup> Grade SC READY Like  
Math Summative Assessment #2  
Non-Calculator Section**



**Student Name**

*Answer Key*

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**Date**

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59. Two lines are graphed on the same coordinate plane. The lines only intersect at the point (3, 6). Which of these systems of linear equations could represent the two lines?

Select all that apply.

A.  $\begin{cases} x = 3 \\ y = 6 \end{cases}$

B.  $\begin{cases} x = 6 + y \\ y = 3 + x \end{cases}$

C.  $\begin{cases} y = 3x - 3 \\ y = x - 1 \end{cases}$

D.  $\begin{cases} x = 3 + y \\ y = 6 + x \end{cases}$

E.  $\begin{cases} y = x + 3 \\ y = 2x \end{cases}$

→ to check  $y = x + 3$  and  $y = 2x$   
 $6 = 3 + 3$  and  $6 = 2 \cdot 3$   
 $6 = 6 \checkmark$  and  $6 = 6 \checkmark$

60. Which expression has a value between -4 and -3?

A.  $1 - 2\sqrt{10}$

B.  $4 - \sqrt{15}$

C.  $3\sqrt{5} - 7$

D.  $\sqrt{20} - 8$

$\sqrt{20}$  is between 4 and 5 so answer is between 4 - 8 or  $[-4]$  and 5 - 8 or  $[-3]$

61. A company makes a puzzle that is made of  $5^3$  small plastic cubes. The puzzles are shipped in boxes that each contain  $5^2$  puzzles. The boxes are loaded into trucks that each contain  $5^3$  boxes. What is the total number of small plastic cubes in each truck?

A.  $5^8$

B.  $5^{18}$

C.  $125^8$

D.  $125^{18}$

$5^3 \cdot 5^2 \cdot 5^3 = 5^8$

62. Solve:  $x^2 = 144$

A.  $x = 12$

B.  $x = \pm 12$

C.  $x = 72$

D.  $x = \pm 72$

$12^2 = 144$  and  $(-12)^2 = 144$

63. The thickness of the skin on the human back is about  $3 \times 10^{-3}$  meter. The thickness of the skin on the human eyelid is about  $3 \times 10^{-4}$  meter. How many times as thick is the skin on the human back as on the human eyelid?

- A. 0.1  
 B. 1  
 C. 10  
 D. 30
- $(3 \times 10^{-4}) \times 10^1 = 3 \times 10^{-3}$   
 human eyelid                      human back

64. The human body contains about  $1 \times 10^{12}$  bacteria. The human body contains about  $4 \times 10^4$  genes. The number of bacteria contained in the human body is how many times as great as the number of genes contained in the human body?

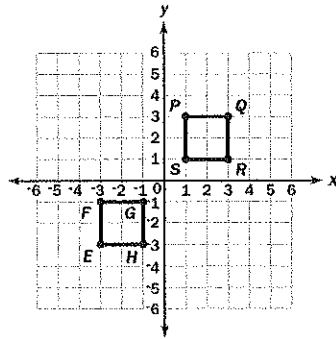
- A. 250  
 B. 4,000  
 C. 25,000,000  
 D. 400,000,000
- $\frac{1 \times 10^{12}}{4 \times 10^4} = .25 \times 10^8 = 25,000,000$

65. Sofia read that there are approximately  $2 \times 10^{11}$  stars in the Milky Way Galaxy. She also read that there are approximately  $3 \times 10^{22}$  stars in the entire universe.

How many times larger is the number of stars in the universe than the number of stars in the Milky Way Galaxy?

- A.  ~~$1.5 \times 10^2$~~   
 B.  $1.5 \times 10^{11}$   
 C.  $6 \times 10^{11}$   
 D.  $6 \times 10^{33}$
- $\frac{3 \times 10^{22}}{2 \times 10^{11}}$  or  $\frac{3}{2} = 1.5$  and  $\frac{10^{22}}{10^{11}} = 10^{11}$   
 $1.5 \times 10^{11}$

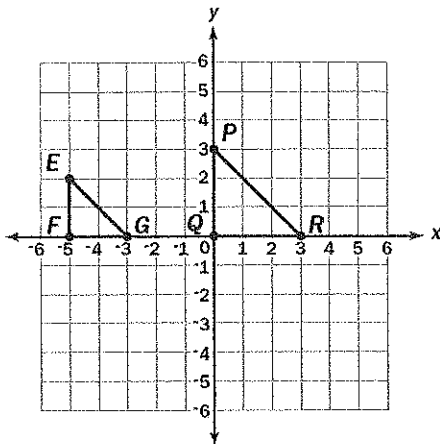
66. Square PQRS is congruent to square EFGH.



Which series of transformations to square PQRS will result in square EFGH?

- A. translation down by 3 units followed by reflection across the y-axis  
 B. reflection across the y-axis followed by translation down by 5 units  
 C. reflection across the x-axis followed by  $45^\circ$  clockwise rotation about the origin  
 D. translation to the left by 4 units followed by  $90^\circ$  counterclockwise rotation about the origin

67. Look at triangles  $PQR$  and  $EFG$ .



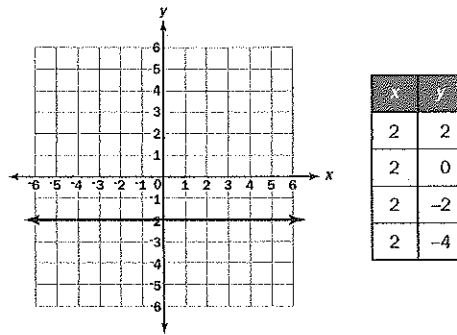
Which of these explains why triangles  $PQR$  and  $EFG$  are similar?

- A. Triangle  $EFG$  is a result of dilating triangle  $PQR$  using a scale factor of  $3/2$ , with the origin as the center, and reflecting it across the  $y$ -axis.
- B. Triangle  $EFG$  is a result of dilating triangle  $PQR$  using a scale factor of  $2/3$ , with the origin as the center, and reflecting it across the  $y$ -axis.
- C. Triangle  $EFG$  is a result of dilating triangle  $PQR$  using a scale factor of  $2/3$ , with the origin as the center, and translating it 5 units to the left.
- D. Triangle  $EFG$  is a result of dilating triangle  $PQR$  using a scale factor of  $3/2$ , with the origin as the center, and translating it 5 units to the left.

68. Which expressions are equivalent to  $\frac{1}{2^6}$ ? Select **all** that apply.

- A.  $2^{-5} \cdot 2^{-1}$
  - B.  $2^{-3} \cdot 2^2$
  - C.  $2^{-2} \cdot 2^{-4}$
  - D.  $2^1 \cdot 2^5$
  - E.  $2^3 \cdot 2^3$
- Handwritten notes:  $2^{-6}$  or  $\frac{1}{2^6}$  next to A and C.

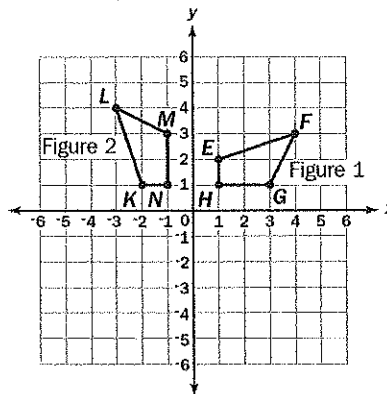
69. Greg wants to compare two different relations. He drew a graph for one relation and created a table of values for the other relation.



Which statement about this graph and the values in this table is true?

- A. Both do not represent functions because they do not pass through the origin.
- B. Both represent functions because they are graphically represented as straight lines.
- C. The graph represents a function because it is a horizontal line, but the values in the table do not represent a function because there are multiple values for  $y$  for a single value of  $x$ .
- D. The graph does not represent a function because it is not a vertical line, but the values in the table represent a function because there are multiple values for  $y$  for a single value of  $x$ .

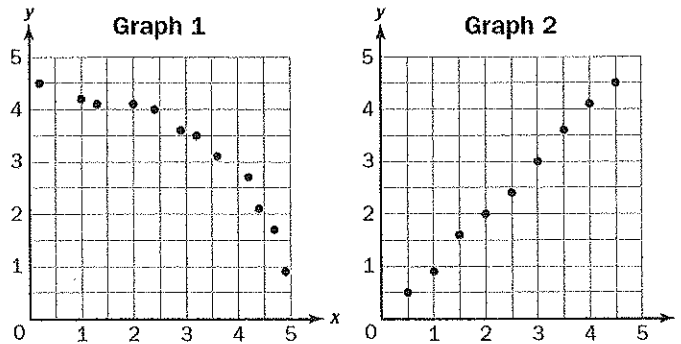
70. Figure 1 is rotated counterclockwise by  $90^\circ$  about the origin to obtain Figure 2.



Which statement about the angles in Figure 1 and Figure 2 is true?

- A.  $m\angle G = m\angle K$
- B.  $m\angle H = m\angle L$
- C.  $m\angle G = m\angle M$
- D.  $m\angle H = m\angle K$

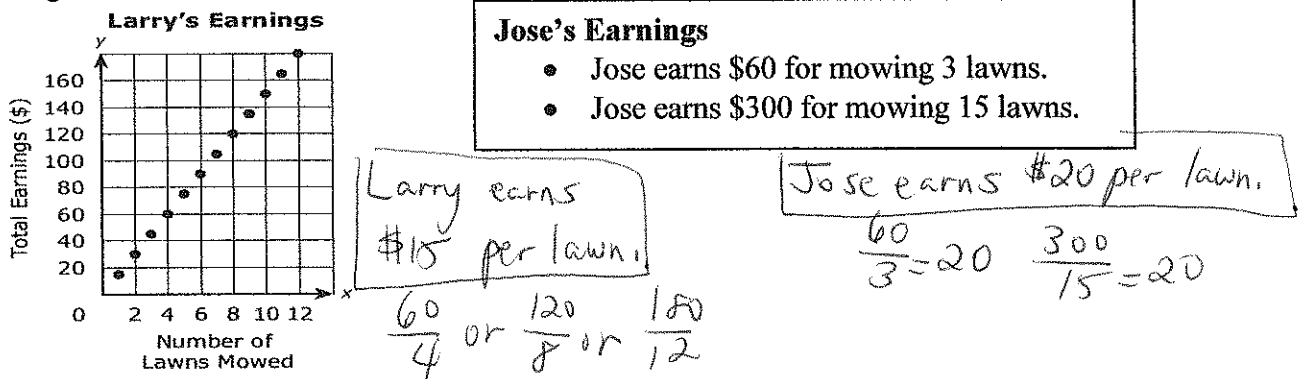
71. Harry constructed two scatter plots to represent the relationship between  $x$  and  $y$  in two experiments.



Which statement BEST compares the two graphs?

- A. Graph 1 shows a linear positive association, and Graph 2 shows a nonlinear negative association.
- B. Graph 1 shows a linear negative association, and Graph 2 shows a nonlinear positive association.
- C. Graph 1 shows a nonlinear positive association, and Graph 2 shows a linear negative association.
- D. Graph 1 shows a nonlinear negative association, and Graph 2 shows a linear positive association.**

72. Larry and Jose each mow lawns in their neighborhoods. Information about each person's earnings is shown.



For both Larry and Jose, the number of dollars earned is proportional to the number of lawns mowed.

Which statement correctly compares the amount of money Larry and Jose each earn per lawn?

- A. Larry earns \$2 more than Jose earns per lawn.
- B. Larry earns \$5 less than Jose earns per lawn.**
- C. Larry earns \$10 more than Jose earns per lawn.
- D. Larry earns \$15 less than Jose earns per lawn.