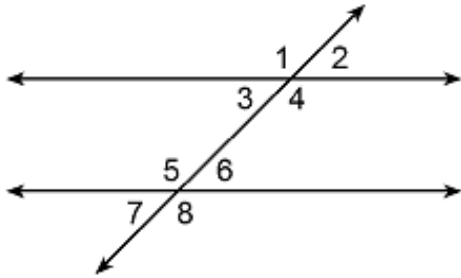


Final Exam –Thursday & Friday, June 14th & 15th

Directions: Show all work. You may use a calculator.

1. Identify a pair of angles that satisfy each relationship.



Corresponding \angle _____ and \angle _____

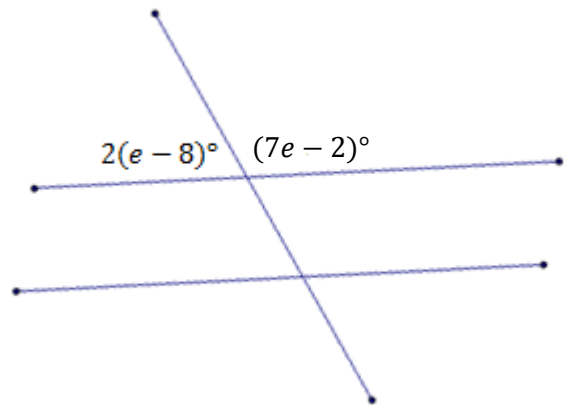
Vertical \angle _____ and \angle _____

Alternate Interior \angle _____ and \angle _____

Alternate Exterior \angle _____ and \angle _____

Supplementary \angle _____ and \angle _____

2. In the diagram below, parallel lines are cut by a transversal. Determine the value of e .
Show your work.



Answer _____

3. Solve for n .

$$4(4n - 5) = 30 + 6n$$

A $n = 5$

B $n = 1$

C $n = 2$

D $n = \frac{25}{11}$

4. Solve for x . Show all work.

$$3x + 17 = 8x + 2 - 2x$$

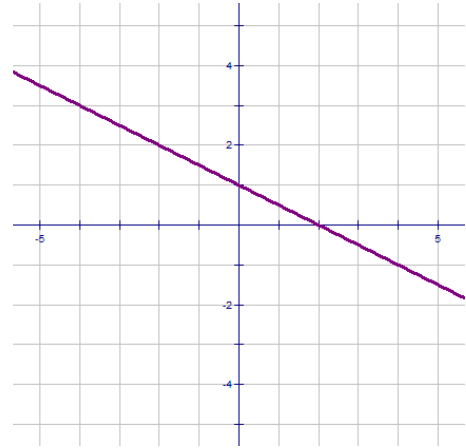
Answer _____

5. Find the slope of the linear function that passes through the points (6, -3) and (8, 7).

Use the slope formula $m = \frac{y_2 - y_1}{x_2 - x_1}$

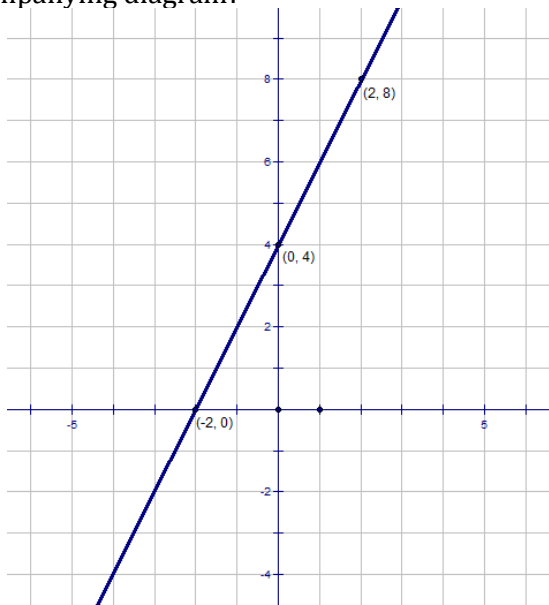
- A 1
- B 5
- C -5
- D $\frac{1}{5}$

6. Based on the graph below, which of the following statements is true?



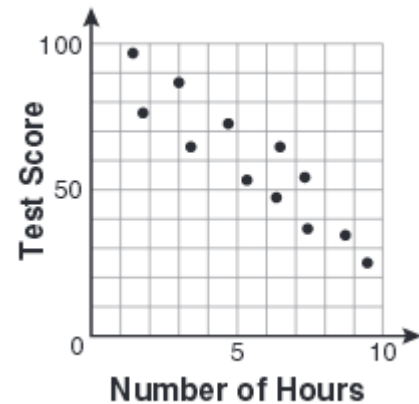
- A The slope of the line is positive.
- B The slope of the line is $-\frac{2}{1}$.
- C The slope of the line is $-\frac{1}{2}$.
- D The slope of the line is undefined.

7. What is the equation of line shown in the accompanying diagram?



- A $y = 2x + 4$
- B $y = 2x - 2$
- C $y = \frac{1}{2}x + 4$
- D $y = \frac{1}{2}x - 2$

8. A study was conducted using 8th grade students to compare the number of hours spent watching television and their math test scores.



Which of the following conclusions is valid?

- A More hours spent watching television results in higher test scores.
- B There is no correlation between watching television and test scores.
- C Fewer hours spent watching television results in lower test scores.
- D More hours spent watching television results in lower test scores.

9. In science class, the students conducted an experiment of how many days it would take bacteria to grow. The table shows the class's results.

Part A Write a function rule for the number of bacteria, y , after x days.

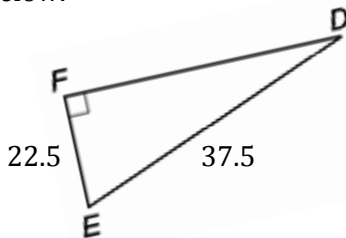
Day (x)	Number of Bacteria (y)
0	30
1	44
2	58
3	72
4	86

Answer _____

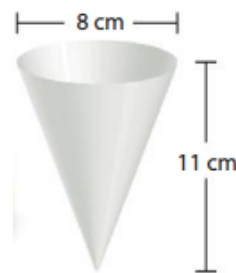
Part B What will the number of bacteria be after 7 days?

Answer _____

10. Determine the missing side of the right triangle shown below.



11. Abby is selling lemonade in paper cups with the dimensions shown below. Determine the volume of each cup *to the nearest tenth*.



12. The population of China is 1.3×10^9 people. In the United States there are 3.0×10^8 people. How much greater is the population of China?

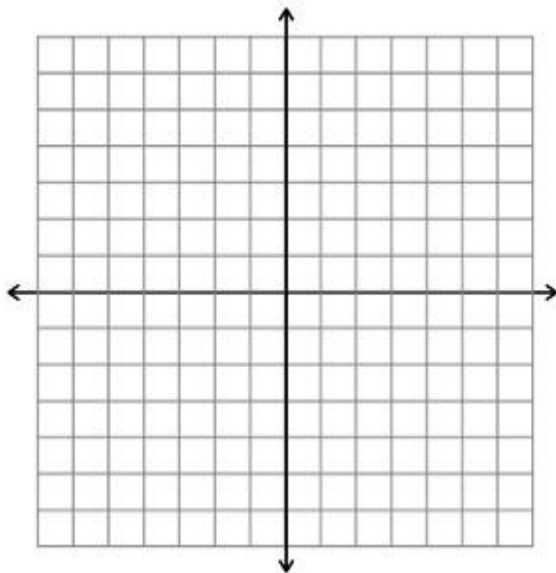
- A 1×10^6 square meters
- B 1.7×10^7 square meters
- C 1×10^9 square meters
- D 4.3×10^0 square meters

13. Which of following represents 36 billion in scientific notation?

- A 3.6×10^9
- B 3.6×10^{10}
- C 3.6×10^7
- D 36×10^9

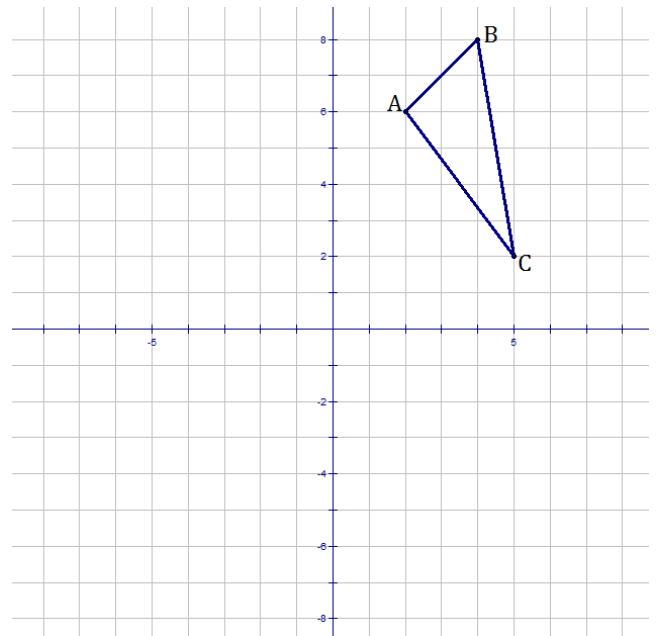
14. Plot, label, and connect the following points. Determine the length of side \overline{MN} to the nearest tenth.

L (6, 1); M (6, 5); N (0, 1)



Answer _____

15. Triangle ABC is shown below.



Part A

Show the image of $\triangle ABC$ after the translation $(x, y) \rightarrow (x - 6, y - 2)$.

Part B

Show the image of $\triangle A'B'C'$ after a reflection over the x-axis.