Geometry
Daily Quiz 10022019

Question 1.

Counterexample: An example which disproves a proposition. For example, the prime number 2 is a counterexample to the statement "All prime numbers are odd."

www.mathwords.com

Look at this statement.

> Any transformation of triangle *LMN* on a coordinate grid results in a congruent image.

Which transformation represents a **counterexample** to this statement?

A. Triangle *LMN* is reflected about the line $y = -5$.

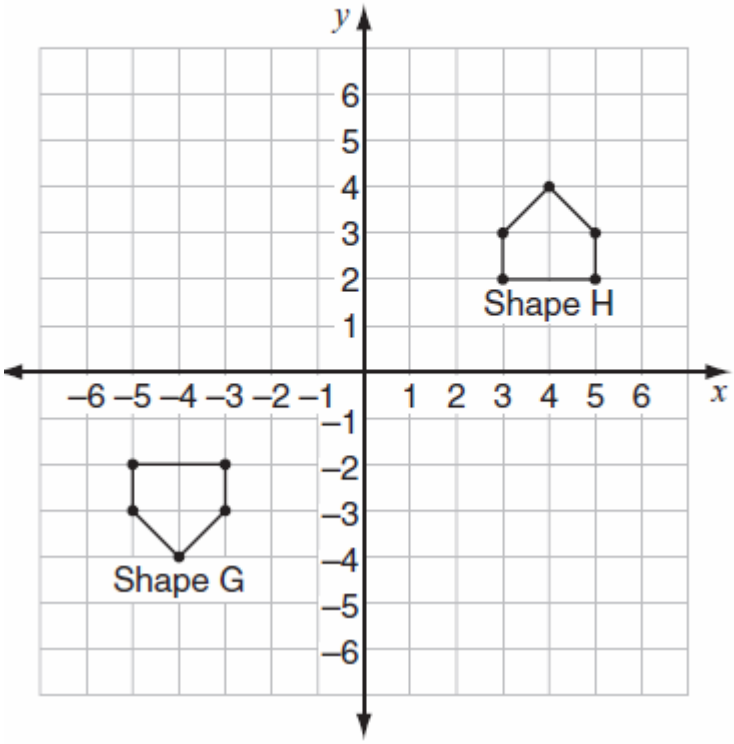
B. Triangle *LMN* is translated 4 units left and 2 units down.

C. Triangle *LMN* is rotated 90° counterclockwise about the point (0, 0).

D. Triangle *LMN* is dilated with a scale factor of 2 about the point (0, 0).

Question 2.

Look at Shape G and Shape H on this grid.



Which transformations will show that Shape G is congruent to Shape H?

A. Translate Shape G right 8 units and then reflect it across the y-axis.

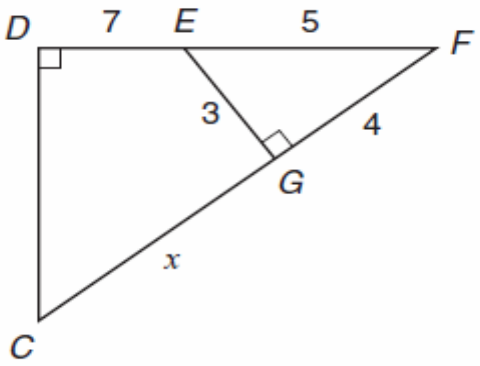
B. Translate Shape G right 6 units and then reflect it across the x-axis.

C. Translate Shape G right 8 units and then reflect it across the x-axis.

D. Translate Shape G up 6 units and then reflect it across the y-axis.

Question 3.

Look at these triangles.



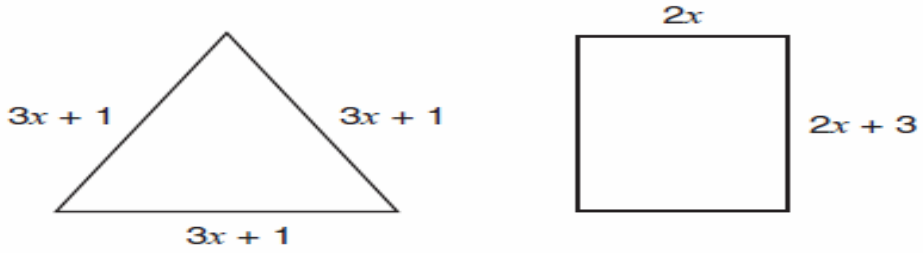
not drawn to scale

Triangle CDF is similar to triangle EGF ($\Delta CDF \sim \Delta EGF$). What is the value of x?

A. 15
B. 11
C. 9
D. 6

Question 4.

9 Look at these two shapes.

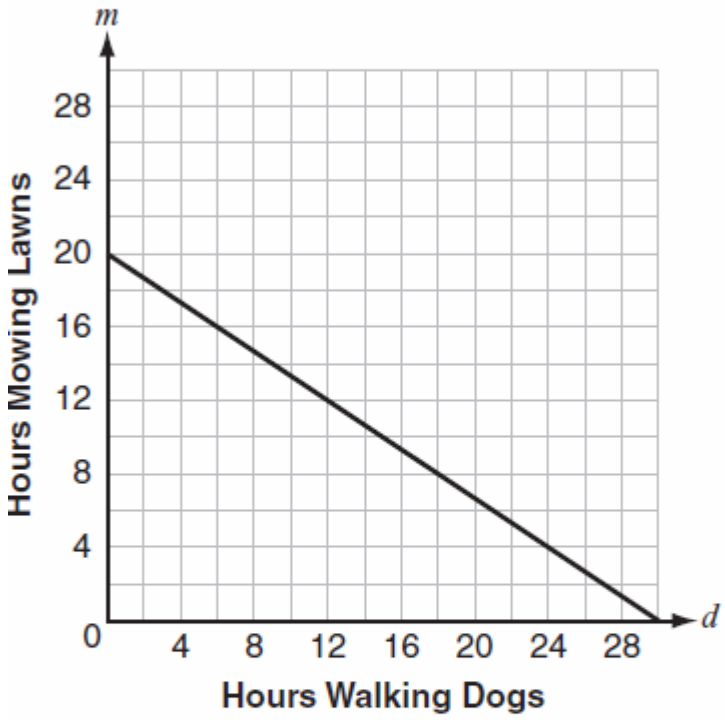


The perimeter of the triangle is equal to the perimeter of the rectangle. Which equation **must** be true?

A. $3x+1=2x+2x+3$
B. $3(3x+1)=2(2x+3)$
C. $3 \bullet 3x+1=2 \bullet 2x+3$
D. $3(3x+1)=2(2x+2x+3)$

Question 5.

Adam wants to earn a total of \$300 each week by walking dogs for d hours and mowing lawns for m hours. The graph below shows all possible numbers of hours Adam could walk dogs and mow lawns to earn exactly \$300 a week.



Last week Adam walked dogs for the same number of hours that he mowed lawns. He earned \$300. How many **total** hours did Adam walk dogs and mow lawns last week?

A. 20

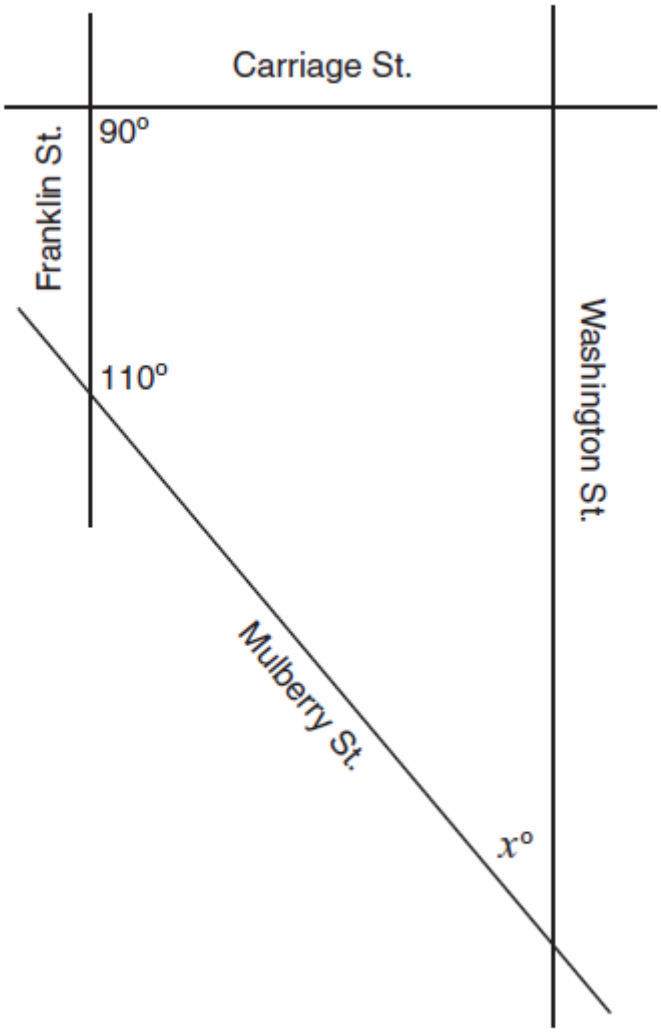
B. 24

C. 28

D. 30

Question 6.

Look at this diagram.

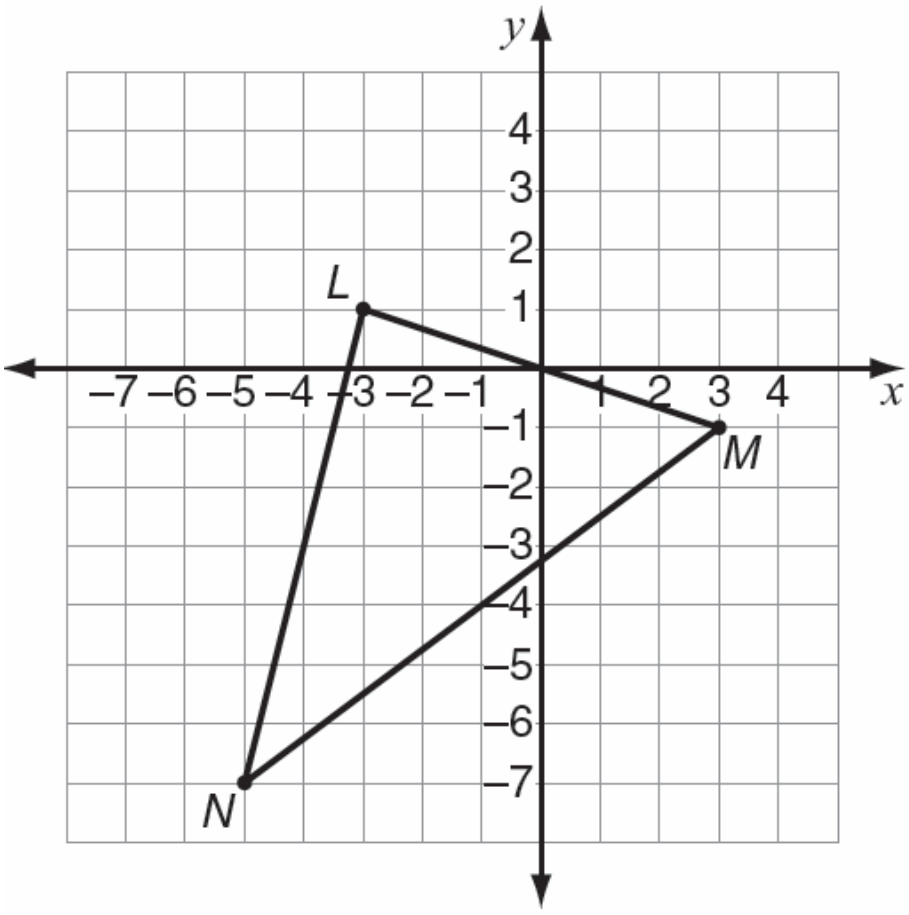


not drawn to scale

Franklin St. is parallel to Washington St. What is the value of x?

Question 7.

Look at ΔLMN on this grid.



What is the length, in units, of $\overline{MN}$?

A. 6

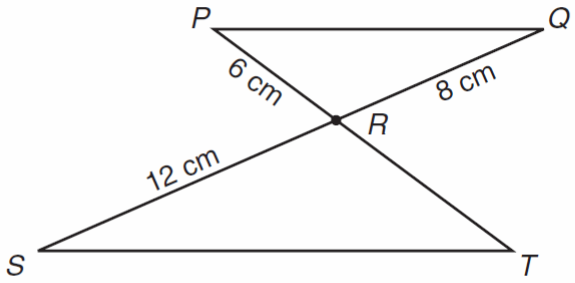
B. 8

C. 9

D. 10

Question 8.

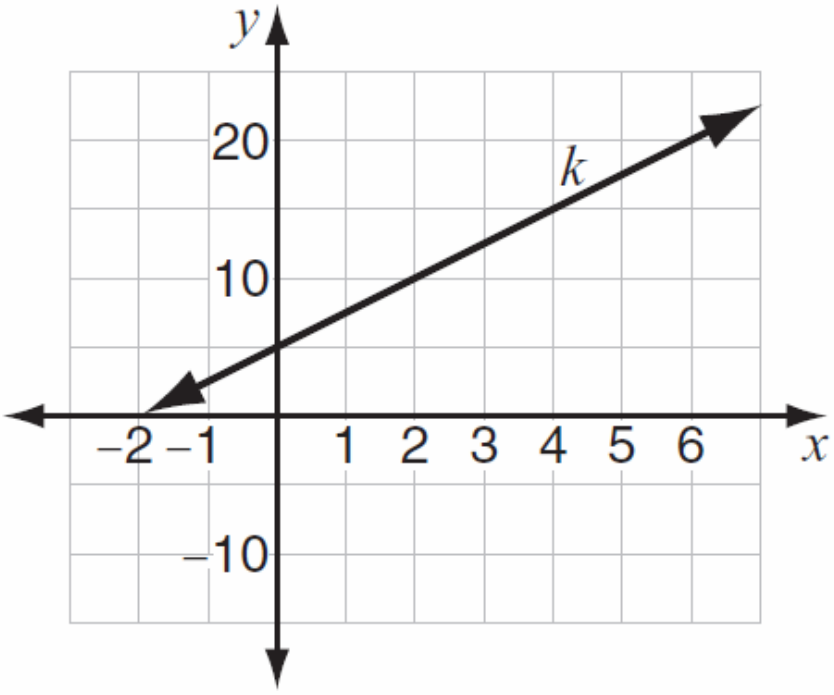
Look at this diagram.



In this diagram, $\overline{PQ}$ is parallel to $\overline{ST}$. What is the length, in centimeters, of $\overline{RT}$?

Question 9.

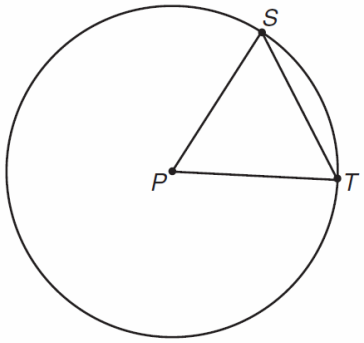
Look at this graph.



What is the slope of line k?

Question 10.

Look at this diagram.



The center of the circle is point P. The measure of $\angle SPT$ is 60°. Use geometric reasoning to explain why $\overline{ST}$ is congruent to $\overline{PT}$.