

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: e

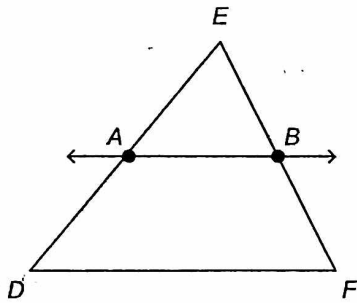
Practice

Chapter 11 & 12 Test **SHOW YOUR WORK!**

If the correct answer is not among the given choices, choose "e"

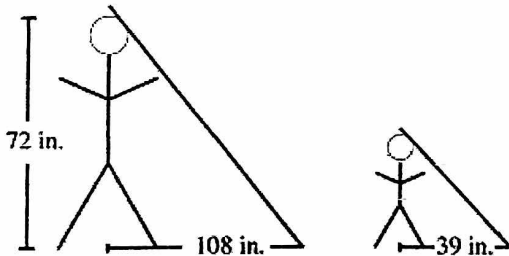
- If two polygons are SIMILAR, then the corresponding sides must be \_\_\_\_\_.
  - proportional
  - parallel
  - similar
  - congruent
- One way to show that two triangles are similar is to show that \_\_\_\_\_.
  - a side of one is congruent to a side of the other
  - an angle of one is congruent to an angle of the other
  - two sides of one are proportional to two sides of the other
  - two angles of one are congruent to two angles of the other

- Which of the following proportions could be used as a given to show that  $\overleftrightarrow{AB} \parallel \overline{DF}$ ?

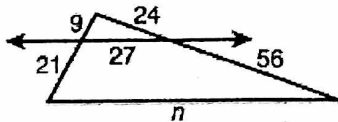


- $\frac{DA}{AE} = \frac{FB}{BE}$
- $\frac{DE}{DF} = \frac{AE}{AB}$
- $\frac{EF}{DF} = \frac{EB}{AB}$
- $\frac{DA}{BE} = \frac{AE}{BE}$

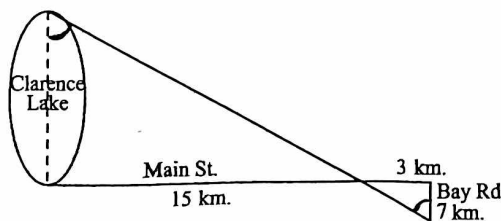
- At the same time of day, a man who is 72 inches tall casts a 108-inch shadow and his son casts a 39-inch shadow. What is the height of the man's son? (Figures may not be drawn to scale.)



- What is the value of  $n$ ?



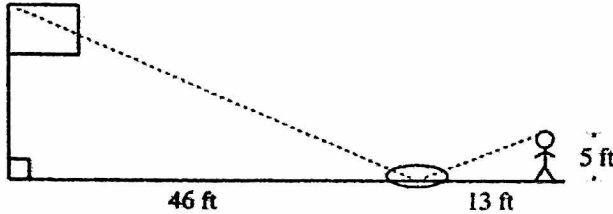
- The triangles in the diagram below are similar. Which is the distance across Clarence Lake? (The figure may not be drawn to scale.)



7. A 25-foot tree casts a 6 foot 3 inch shadow. At the same time, a fence casts a 2-foot shadow. How tall is the fence?

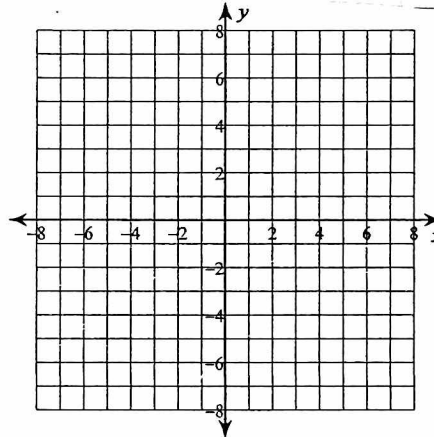
8.

Karen wanted to measure the height of her school's flagpole. She placed a mirror on the ground 46 feet from the flagpole, and then walked backwards until she was able to see the top of the pole in the mirror. Her eyes were 5 feet above the ground and she was 13 feet from the mirror. Using similar triangles, find the height of the flagpole to the nearest hundredth of a foot. (Figures may not be drawn to scale.)



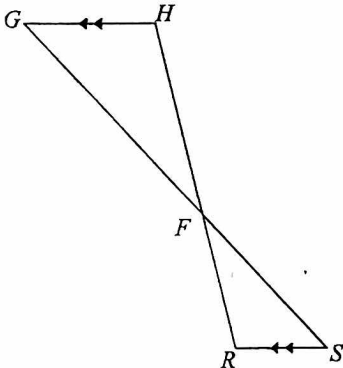
9. Point  $P$  divides the directed line segment from  $A(-7, 6)$  to  $B(7, -1)$  in the ratio 5 to 2.

What are the coordinates of  $P$ ?



State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.

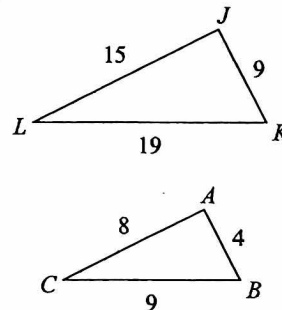
10)



$\triangle FGH \sim$  \_\_\_\_\_

- A) similar; AA similarity;  $\triangle FSR$
- B) similar; SSS similarity;  $\triangle RFS$
- C) similar; SAS similarity;  $\triangle FSR$
- D) not similar

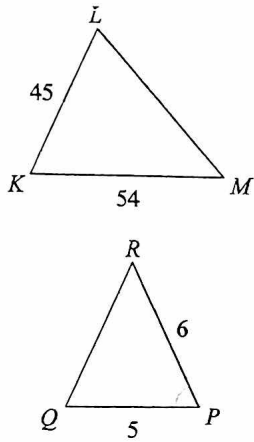
11)



$\triangle JKL \sim$  \_\_\_\_\_

- A) not similar
- B) similar; AA similarity;  $\triangle BAC$
- C) similar; AA similarity;  $\triangle CBA$
- D) similar; SSS similarity;  $\triangle CBA$

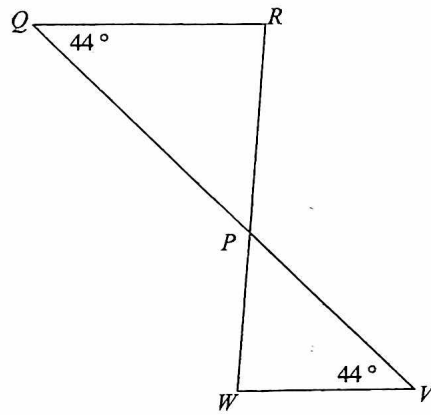
12)



$\triangle KLM \sim$  \_\_\_\_\_

- A) similar; AA similarity;  $\triangle RPQ$
- B) similar; AA similarity;  $\triangle RQP$
- C) similar; SAS similarity;  $\triangle PQR$
- D) not similar

13)

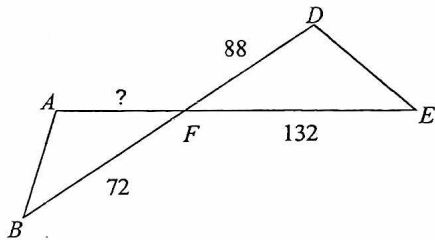


$\triangle PQR \sim$  \_\_\_\_\_

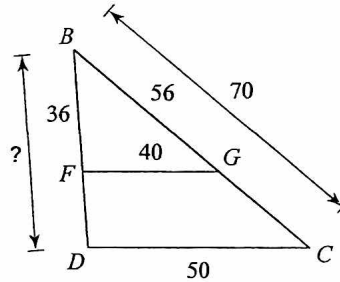
- A) similar; AA similarity;  $\triangle WVP$
- B) not similar
- C) similar; AA similarity;  $\triangle VPW$
- D) similar; AA similarity;  $\triangle PVW$

Find the missing length. The triangles in each pair are similar.

14)  $\triangle FED \sim \triangle FBA$

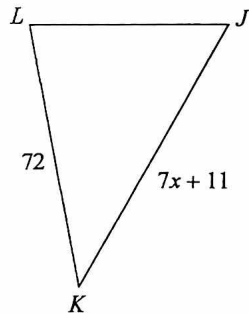
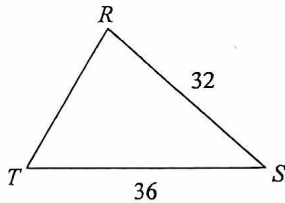


15)

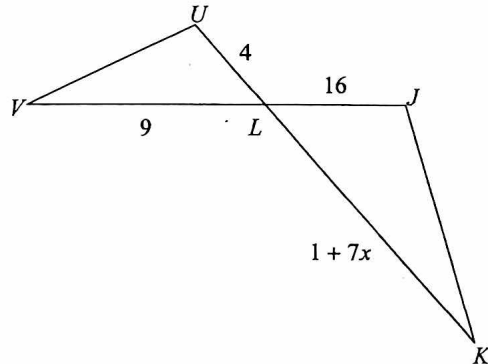


Solve for x. The triangles in each pair are similar.

16)  $\triangle LKJ \sim \triangle RST$

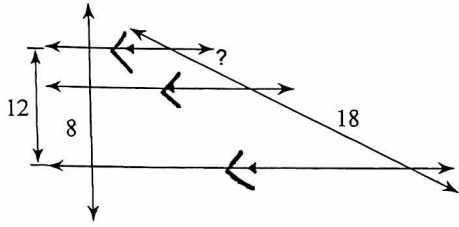


17)  $\triangle LKJ \sim \triangle LVU$

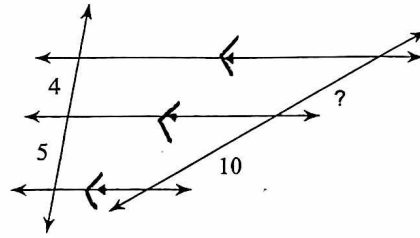


Find the missing length indicated.

18)

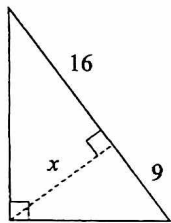


19)

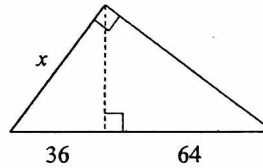


Find the missing length indicated. (Hint – mark the shared angles and separate the 3 triangles)

20)



21)



22) Which of the following transformations DOES NOT produce a final similar image?

- A)  $(x,y) \rightarrow (2x, 2y)$
- B)  $(x, y) \rightarrow (2x, -2y)$
- C)  $(x,y) \rightarrow (3x, y) \rightarrow (x + 3, y + 4) \rightarrow (x, 3y)$
- D)  $(x,y) \rightarrow (2x, 3y)$

23) Given the similar equilateral triangular rooms with dimensions shown, how much would carpeting for room #2 cost if the carpeting for room #1 costs \$100.

