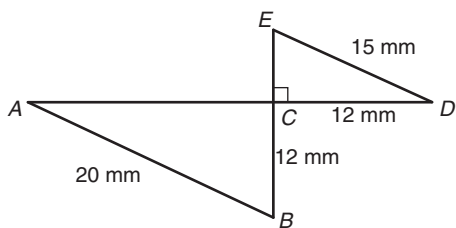


Complete each paragraph proof to show that the triangles are similar.

14. Show that triangle $ABC \sim$ triangle DEC .



Use the _____ . First, use the _____ to calculate AC and EC .

$$AC^2 = \underline{\quad}^2 - \underline{\quad}^2$$

$$EC^2 = \underline{\quad}^2 - \underline{\quad}^2$$

$$AC^2 = \underline{\quad} - \underline{\quad}$$

$$EC^2 = \underline{\quad} - \underline{\quad}$$

$$AC^2 = \underline{\quad}$$

$$EC^2 = \underline{\quad}$$

$$AC = \underline{\quad} \text{ mm}$$

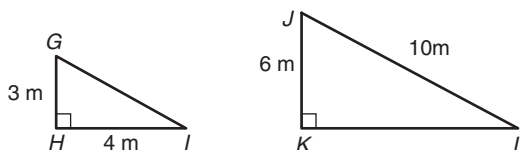
$$EC = \underline{\quad} \text{ mm}$$

Next, calculate the ratios of the corresponding sides.

$$\frac{AC}{DC} = \underline{\quad} \quad \frac{BC}{EC} = \underline{\quad} \quad \frac{AB}{DE} = \underline{\quad}$$

All of the corresponding sides are _____. So by the _____, triangle $ABC \sim$ triangle DEC .

15. Show that triangle $GHI \sim$ triangle JKL .



Use the _____ . First, use the _____ to calculate GI and KL .

$$GI^2 = \underline{\quad}^2 + \underline{\quad}^2$$

$$KL^2 = \underline{\quad}^2 - \underline{\quad}^2$$

$$GI^2 = \underline{\quad} + \underline{\quad}$$

$$KL^2 = \underline{\quad} - \underline{\quad}$$

$$GI^2 = \underline{\quad}$$

$$KL^2 = \underline{\quad}$$

$$GI = \underline{\quad} \text{ m}$$

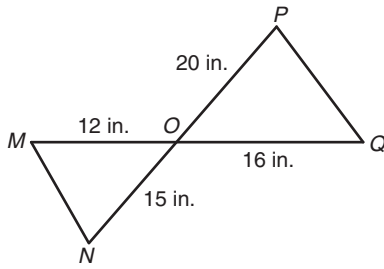
$$KL = \underline{\quad} \text{ m}$$

Next, calculate the ratios of the corresponding sides.

$$\frac{GH}{JK} = \underline{\quad} \quad \frac{HI}{KL} = \underline{\quad} \quad \frac{GI}{JL} = \underline{\quad}$$

All of the corresponding sides are _____. So by the _____, triangle $GHI \sim$ triangle JKL .

16. Show that triangle $MNO \sim$ triangle QPO .



Use the _____ . First, according to the _____, $\angle MON$ and $\angle QOP$ are _____.

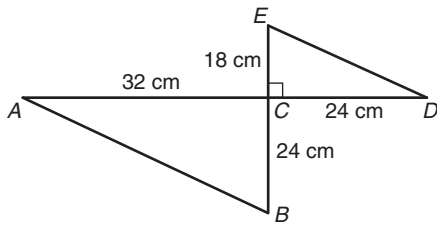
Next, calculate the ratios of the corresponding sides.

$$\frac{MO}{QO} = \underline{\hspace{2cm}} \quad \frac{ON}{OP} = \underline{\hspace{2cm}}$$

The corresponding sides are _____.

So by the _____, triangle $MNO \sim$ triangle QPO .

17. Show that triangle $ABC \sim$ triangle DEC .



Use the _____ . First, according to the _____, $\angle ACB$ and $\angle DCE$ are _____.

Next, calculate the ratios of the corresponding sides.

$$\frac{AC}{DC} = \underline{\hspace{2cm}} \quad \frac{BC}{EC} = \underline{\hspace{2cm}}$$

The corresponding sides are _____.

So by the _____, triangle $ABC \sim$ triangle DEC .

Name _____ Date _____

Modeling a Park Indirect Measurement

Vocabulary

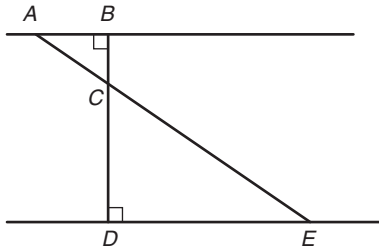
Define each term in your own words.

1. indirect measurement

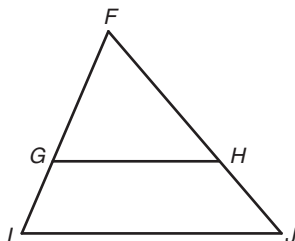
Problem Set

Explain how you know that the triangles are similar.

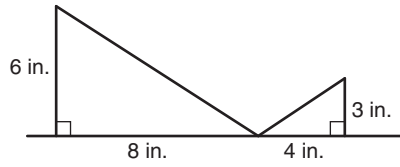
2.



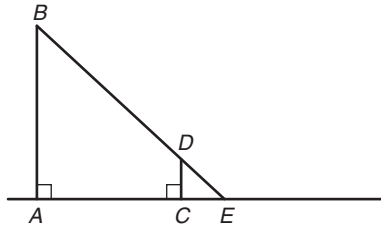
3.



4.

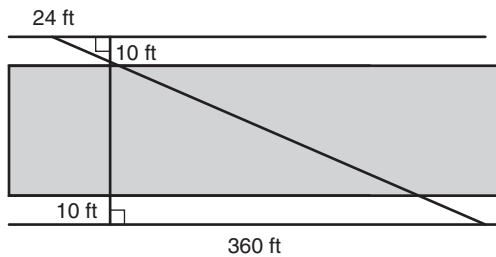


5.



Use indirect measurement to calculate the missing distance.

6. Elly and Jeff are on opposite sides of a canyon that runs north to south. They want to know how wide the canyon is. Each person stands 10 feet from the edge. Then Elly walks 24 feet north, and Jeff walks 360 feet south.



What is the width of the canyon?

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