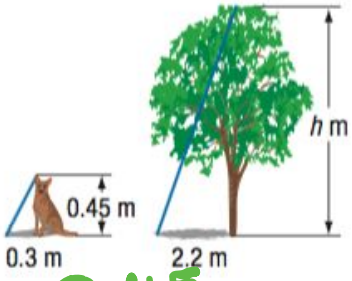
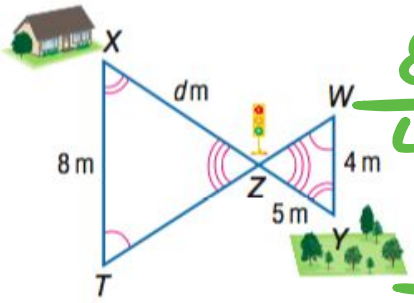
In Exercises 1 and 2, the triangles are similar.

1. **TREES** How tall is the tree?



$\frac{0.3}{2.2} = \frac{0.45}{h}$

2. **WALKING** Find the distance from the park to the house.



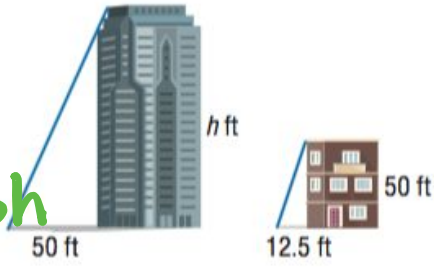
$\frac{8}{4} = \frac{d}{5}$

$\frac{40}{4} = \frac{4d}{4}$

$10 = d$

In Exercises 3–8, the triangles are similar. Write a proportion and solve the problem.

3. **BUILDING** How tall is the building?

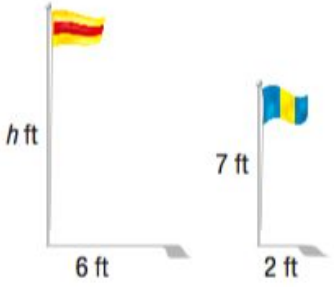


$\frac{50}{12.5} = \frac{h}{50}$

$2500 = 12.5h$

$h = 200$

4. **FLAGS** How tall is the taller flagpole?

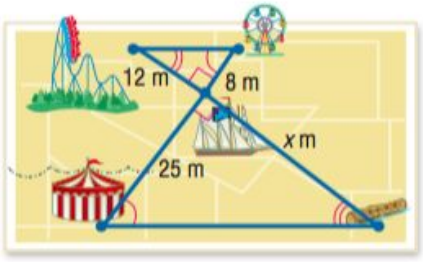


$\frac{h}{7} = \frac{6}{2}$

$\frac{2h}{2} = \frac{42}{2}$

$h = 21$

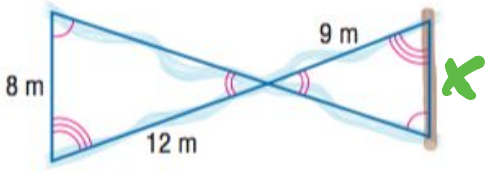
5. **PARKS** How far is it from the log ride to the pirate ship?



$\frac{12}{x} = \frac{8}{25}$

$\frac{8x}{8} = \frac{300}{8}$

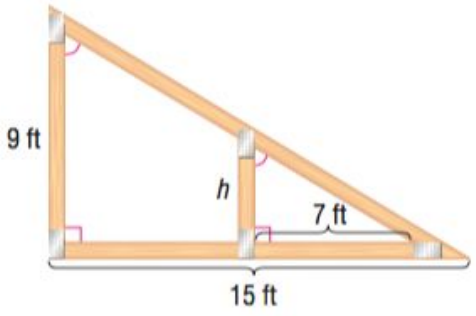
6. **CREEKS** About how long is the log that goes across the creeks?



$\frac{8}{x} = \frac{12}{9}$

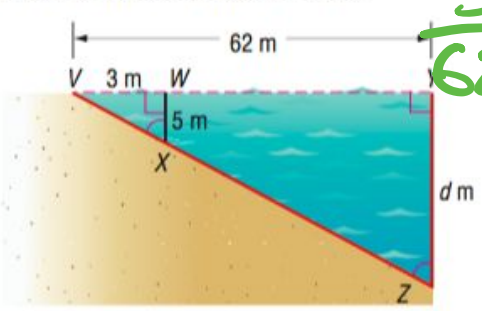
$72 = \frac{12x}{12}$

7. **CONSTRUCTION** Find the height of the brace.



$\frac{7}{15} = \frac{h}{9}$

8. **LAKES** How deep is the water 62 meters from the shore?



$\frac{3}{62} = \frac{5}{d}$

For Exercises 9 and 10, draw a diagram.

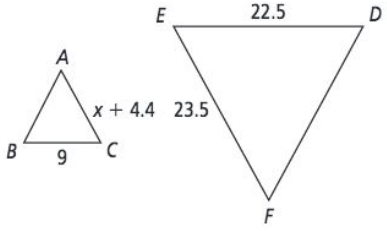
9. **FERRIS WHEELS** The Giant Wheel at Cedar Point in Ohio is one of the tallest Ferris wheels in the country at 136 feet tall. If the Giant Wheel casts a 34-foot shadow, write and solve a proportion to find the height of a nearby man who casts a $1\frac{1}{2}$-foot shadow.

$\frac{136}{x} = \frac{34}{1.5}$

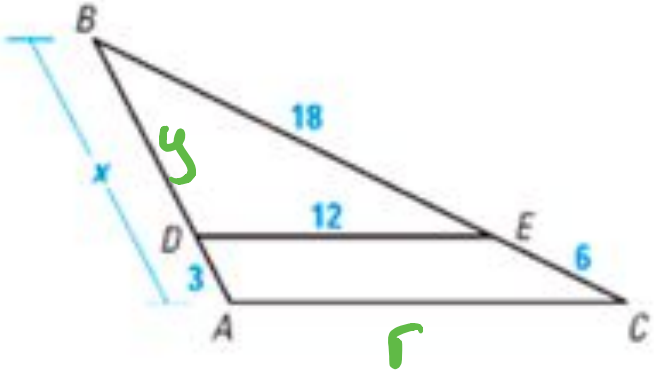
10. **BASKETBALL** At 7 feet 2 inches, Margo Dydek is one of the tallest women to play professional basketball. Her coach, Carolyn Peck, is 6 feet 4 inches tall. If Ms. Peck casts a shadow that is 4 feet long, about how long would Ms. Dydek's shadow be? Round to the nearest tenth.

11. Challenge

$\triangle ACB \sim \triangle FED$. What is the value of x?



12a. In the diagram, $\frac{BD}{DA} = \frac{BE}{EC}$. Find BA and BD.



$\frac{y}{3} = \frac{18}{6}$

b. In the diagram, $\frac{DE}{AC}=\frac{BE}{BC}$. Find AC.

$$\frac{12}{x}=\frac{18}{24}$$