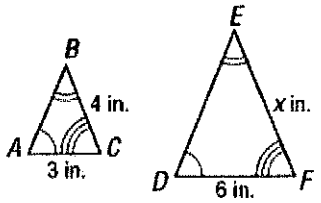
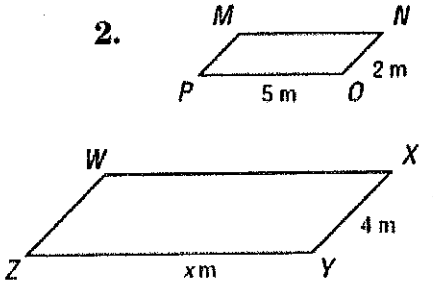
In Exercises 1–10, the figures are similar. Find each missing measure.

1.



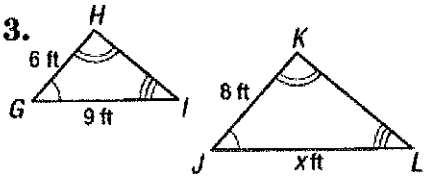
$x = 8$

2.



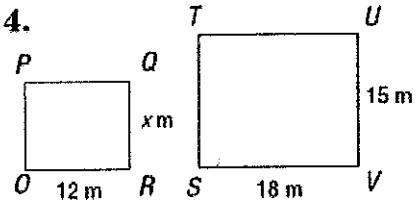
$X = 10$

3.



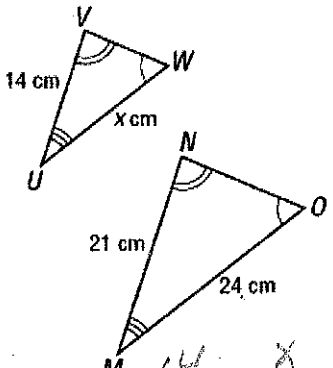
$\frac{6}{9} = \frac{8}{x}$ 12

4.



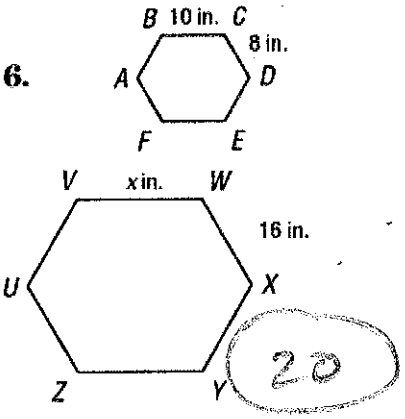
$\frac{x}{12} = \frac{15}{18}$ 10

5.



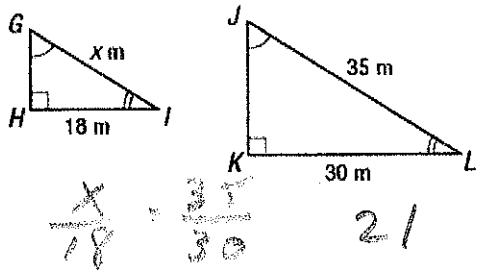
$\frac{14}{21} = \frac{x}{24}$ 16

6.



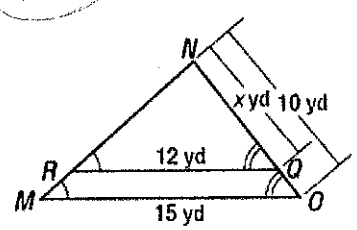
20

7.



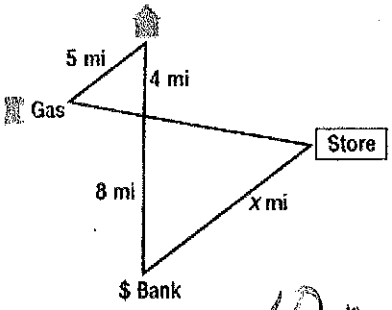
$\frac{x}{18} = \frac{35}{30}$ 21

8.



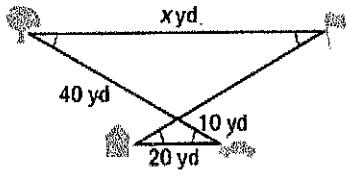
$\frac{x}{12} = \frac{10}{15}$ 8

9. How far is the store from the bank?



10 mi

10. How far is the tree from the flagpole?



$\frac{x}{20} = \frac{40}{10}$

80

Indirect Measurement

1. **ANIMALS** At the same time a 12-foot adult elephant casts a 4.8-foot shadow, a baby elephant casts a 2-foot shadow. How tall is the baby elephant? $\frac{12}{4.8} = \frac{x}{2}$ (5)

2. **AIRPORTS** If a 12-meter-tall airplane hangar casts a 18-meter shadow at the same time a parked jet casts a 6-meter shadow, how tall is the jet? $\frac{12}{18} = \frac{x}{6}$ (4)

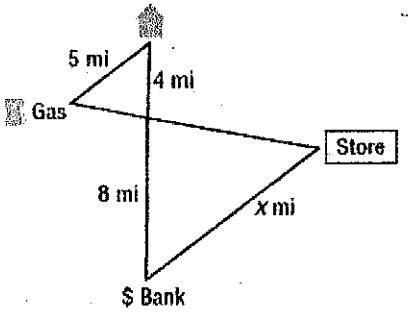
3. **FERRIS WHEEL** Suppose a Ferris wheel is 160 feet high and casts a shadow that is 64 feet long. At the same time, a ticket booth next to the Ferris wheel casts a shadow that is 2.8 feet long. What is the height of the ticket booth? $\frac{160}{64} = \frac{x}{2.8}$ (7)

4. **BUILDINGS** A building casts a shadow that is 72 feet long. A garage next to the building is 27 feet high and casts a shadow that is 4.5 feet long. What is the height of the building? $\frac{x}{72} = \frac{27}{4.5}$ (432)

5. **FARMS** A silo casts a shadow that is 99 feet long. Next to the silo is an 18-foot-tall barn that casts a shadow that is 13.5 feet long. How tall is the silo? $\frac{x}{99} = \frac{18}{13.5}$ (132)

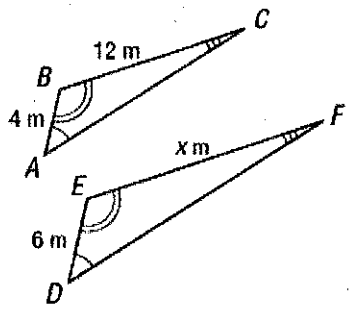
6. **STATUES** In New Salem, North Dakota, there is a 38-foot-tall statue of a cow named Salem Sue. Suppose the statue's shadow was 57 feet long and a 3.5-foot child was standing next to the statue. How long would the child's shadow be? $\frac{38}{57} = \frac{3.5}{x}$ (5.25)

7. **DISTANCES** The triangles below are similar. How far is the store from the bank?



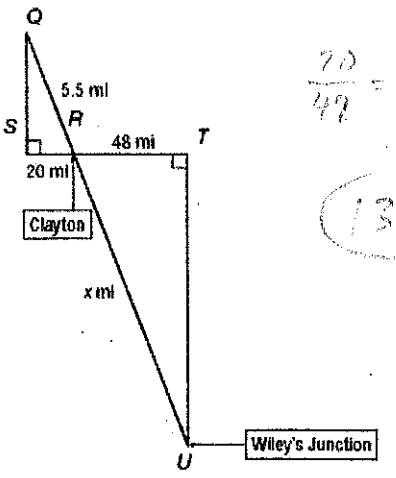
$\frac{4}{8} = \frac{5}{x}$ (10)

8. **GEOMETRY** The triangles below are similar. What is the value of x?



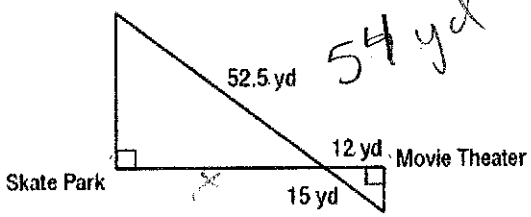
$\frac{4}{6} = \frac{12}{x}$ (18)

9. **MAPS** The triangles below are similar. How far is Clayton from Wiley's Junction?



$\frac{20}{44} = \frac{5.5}{x}$ (13.2)

10. **DISTANCES** The triangles below are similar. What is the distance between the skate park and the movie theater?



54 yd

$\frac{12}{x} = \frac{15}{52.5}$