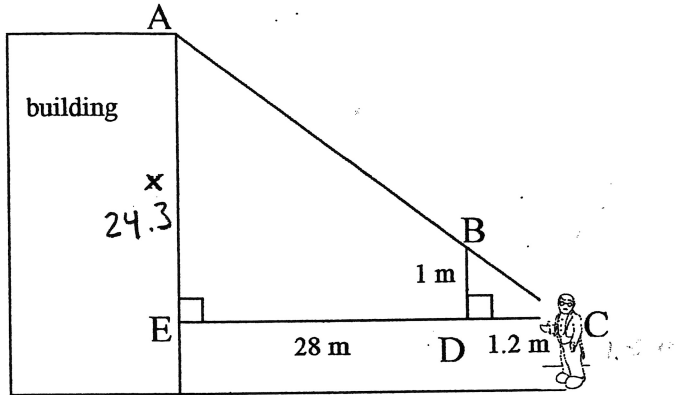


Soln

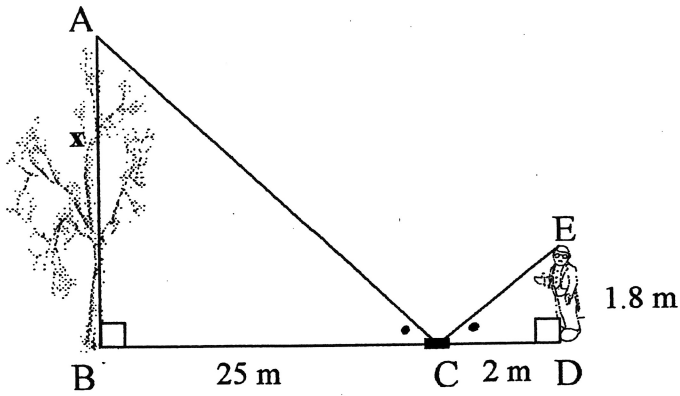
1. What is the height of the building?

Height =  $x + 1.2$



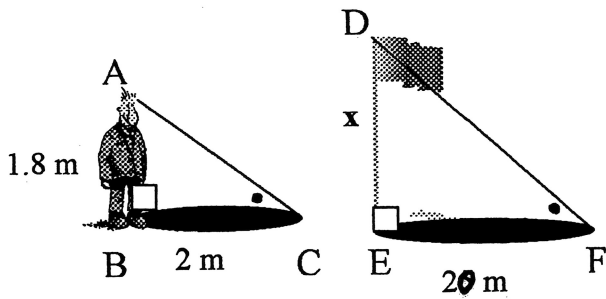
$h = 1.2 + 24.3$   
 $= 25.5$  m

2. How tall is the tree?



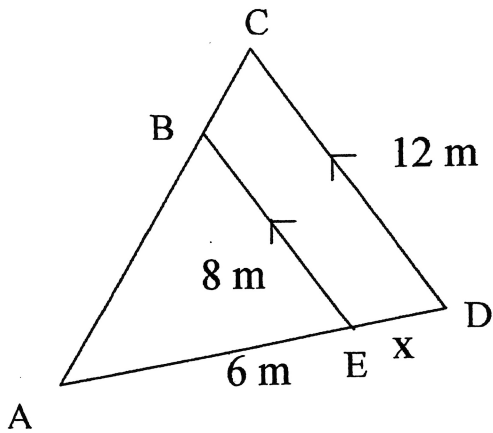
$x = 22.5$  m

3. What is the height of the flagpole?



$x = 18$  m

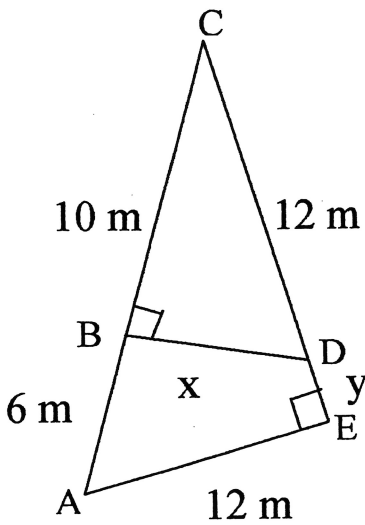
4. What is the length of side x?



Given:  $\triangle ABE \sim \triangle ACD$

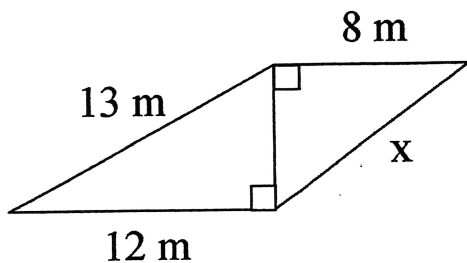
$$x = 3\text{ m}$$

5. What is the length of side x?



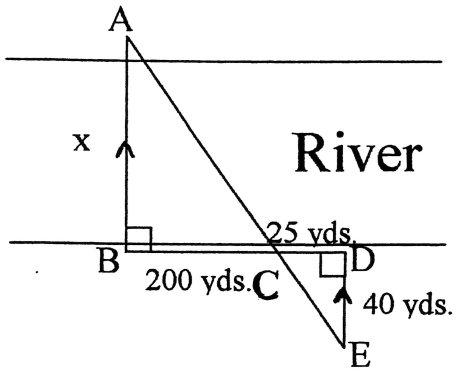
$$x = 9\text{ m}$$

6. Use the Pythagorean theorem to determine the length of the side x.



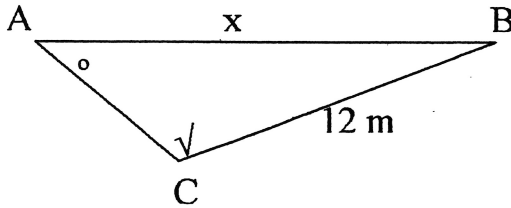
$$x \approx 9.4\text{ m}$$

7. Determine the distance across the river.

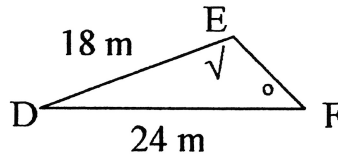


$$x = 320 \text{ yds.}$$

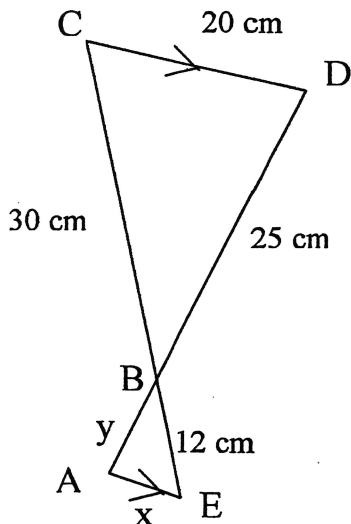
8. Determine the length of side  $x$ .



$$x = 16 \text{ m}$$



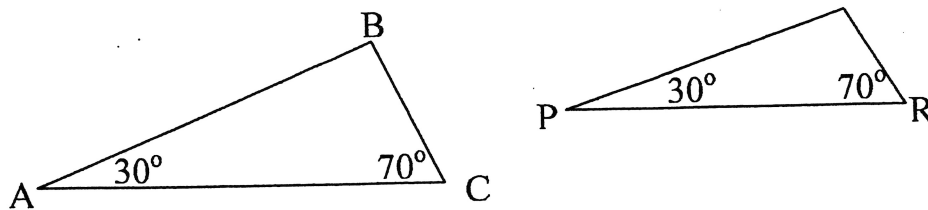
9. Determine the lengths of  $x$  and  $y$  in the following diagram.



$$x = 8 \text{ cm}$$

$$y = 10 \text{ cm}$$

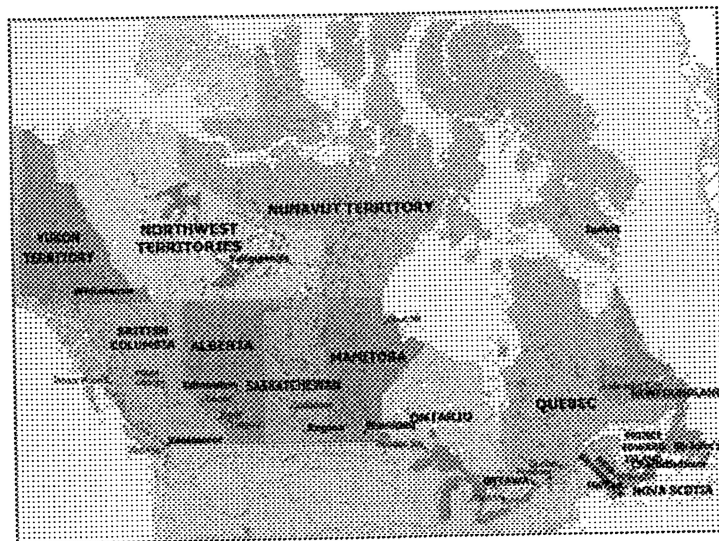
10. Use the following words to fill in the blanks: equal, proportional and similar.



The triangle ABC and triangle PQR are similar.  
The angles in one triangle are equal to the angles in the other triangle.  
The side lengths of one triangle are proportional to the side lengths in the other triangle.

11. In what province would you find the city of Kelowna?

British  
Columbia



12. If you are 16 years old and your mother is 42 years old, how many years from now will you be half your mother's age?

→ in 10 years

13. Solve the following equation for x.

$$4(x + 1) + x = 2(x + 5)$$

$$4x + 4 + x = 2x + 10$$

$$5x + 4 = 2x + 10$$

$$5x - 2x = 10 - 4$$

$$3x = 6$$

$$x = 2$$