Date: _____

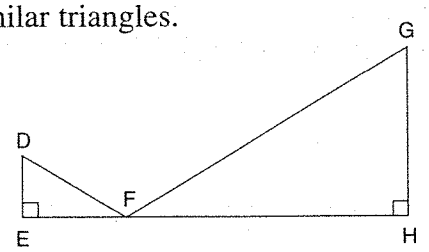
1.4 Solve Problems Using Similar Triangles

Textbook pp. 30–37

Warm-Up

1. Similar Triangles

Identify corresponding sides in these similar triangles.



2. Similar Triangles

In similar triangles,

a) how many pairs of sides are corresponding? _____

b) how many pairs of angles are corresponding? _____

3. Solve a Proportion

Calculate the length of AB.

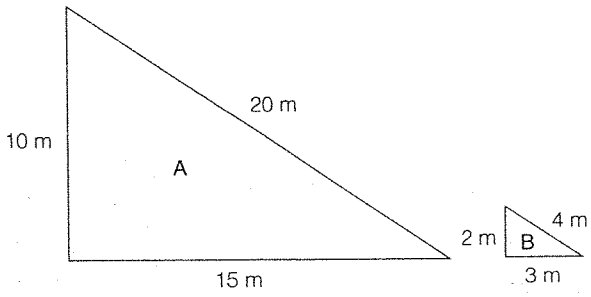
$$\frac{AB}{15} = \frac{5}{3}$$

4. Math Literacy

Give two real-life examples in which the properties of similar triangles are used.

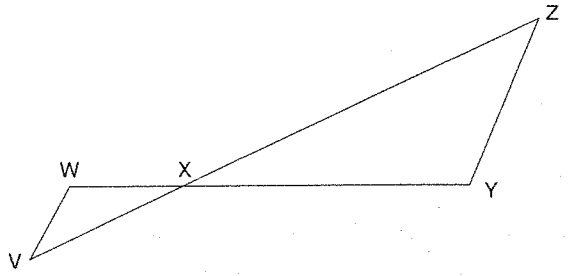
5. Mental Math

Determine how many times as long the side lengths of Triangle A are compared to those of Triangle B.



6. Corresponding Angles

Identify the corresponding angles in these similar triangles.



7. Proportions

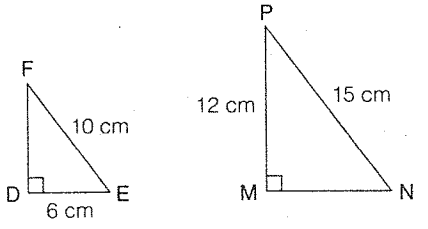
Solve each proportion.

a) $\frac{b}{3} = \frac{6}{12}$

b) $\frac{8}{18} = \frac{m}{27}$

8. Find a Side Length

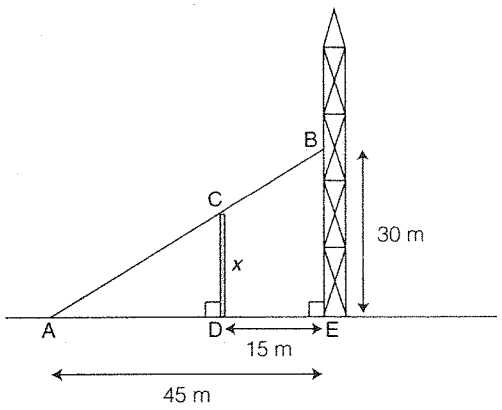
Triangles DEF and MNP are similar. Find the length of MN.



Date: _____

Section 1.3

4. A support wire is attached to the ground 45 m from the base of a telecommunications tower. The wire is attached to the tower 30 m up from the ground. A post supports the wire at a point 15 m from the base of the tower.



a) Sketch and label triangles ABE and ACD.

b) Are triangles ABE and ACD similar? How do you know?

c) Find the height of the support post.