So far, you have looked at two important relationships:

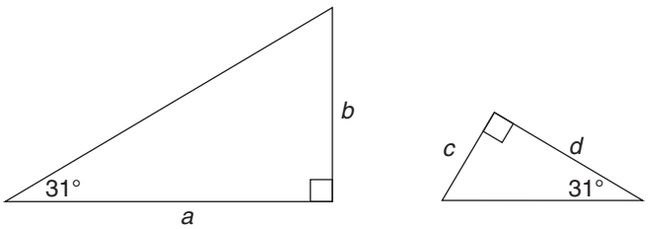
- The ratio of corresponding side lengths of similar right triangles is always the same.
- Right triangles containing an identical acute angle must be similar.

From these two relationships you can conclude that **all triangles containing an identical acute angle have the same ratio of corresponding side lengths**.

Use this conclusion to complete the following *Check Up*.

Check Up

1. Consider the two triangles below.



a. Explain why the two triangles must be similar.

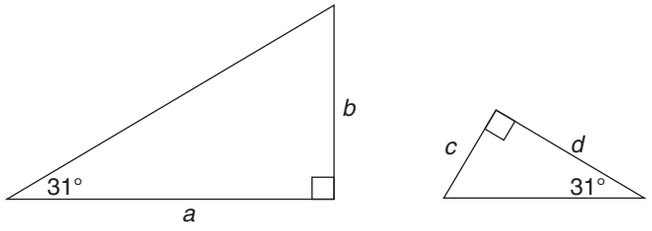
b. State two pairs of corresponding sides.

c. If $\frac{b}{a} = 0.6$, what must $\frac{c}{d}$ equal? Explain.

d. If $\frac{b}{a} = 0.6$ and $d = 10$, what must c equal?

Compare your answers.

1. Consider the two triangles below.



a. Explain why the two triangles must be similar.

Two pairs of angles are equal, so the third pair must also be equal. Three pairs of equal angles means the triangles must be similar.

b. State two pairs of corresponding sides.

a corresponds to d and b corresponds to c.

c. If $\frac{b}{a} = 0.6$, what must $\frac{c}{d}$ equal? Explain.

Similar triangles have the same ratio of corresponding side lengths, so $\frac{c}{d} = 0.6$.

d. If $\frac{b}{a} = 0.6$ and $d = 10$, what must c equal?

$$\frac{c}{d} = 0.6$$
$$\frac{c}{10} = 0.6$$
$$\frac{c}{10} \cdot 10 = 0.6 \cdot 10$$
$$c = 6$$