Similarity (*La similitude*)

dmeyer@math.ucsd.edu

Two geometric objects are called *similar* if they have the same shape, even if they have different sizes or orientations.

1. Circle the pairs of similar objects:

2. One rectangle is $2cm \times 3cm$. Another is $4cm \times 6cm$. Are they similar?

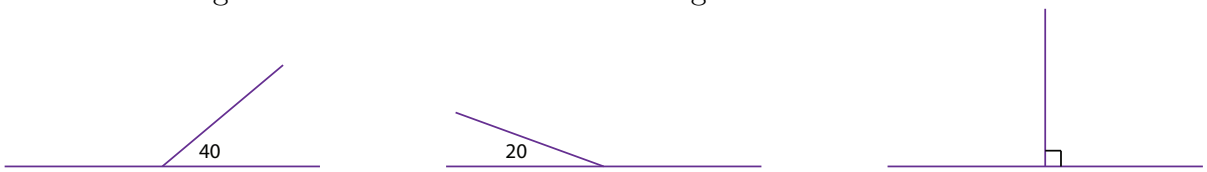
3. One triangle has sides of lengths $3cm$, $4cm$ and $5cm$. Another has sides of lengths $9cm$, $12cm$ and $15cm$. Are they similar?

4. Two rectangles are similar. One has sides of length $2cm$ and $3cm$. The other has a side of length $6cm$. How long is the other side? Is the solution unique?

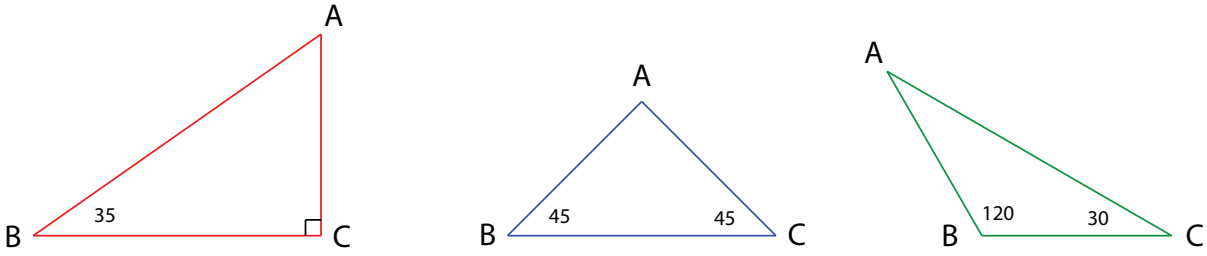
Two facts about angles:

- The degree measure of an angle that is a straight line is 180.
- The degree measures of the angles in a triangle add up to 180.

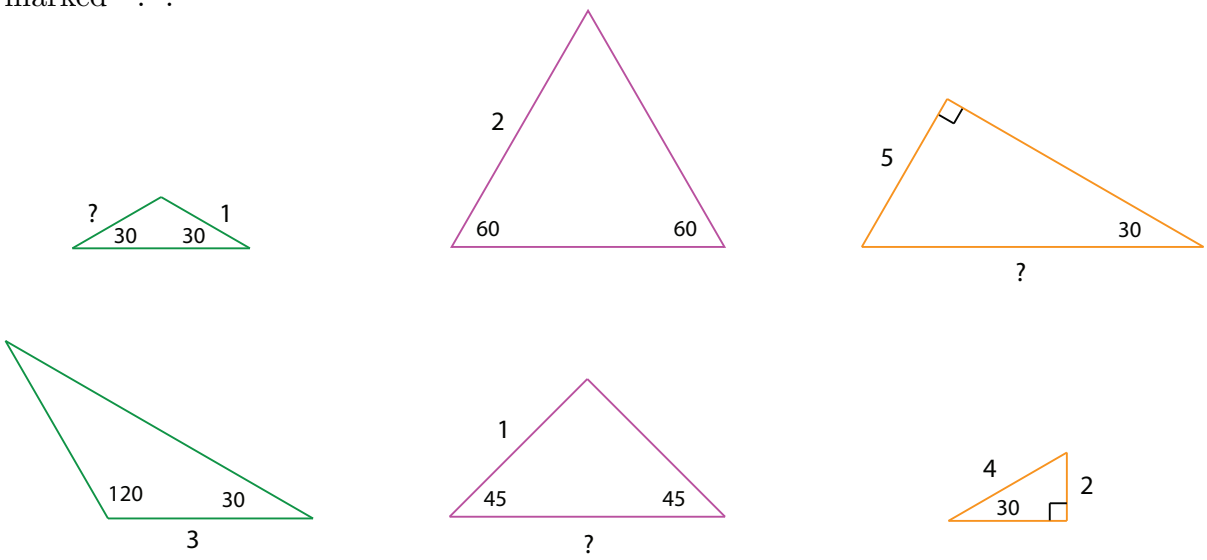
5. What is the degree measure of each unlabeled angle?



6. What is the degree measure of each angle labeled A?



7. Circle the pairs of similar triangles and for each of those find the length of the side marked "?".



8. Which other angle has the same measure as $\angle ACX$? Which other angle has the same measure as $\angle BCX$? Which three triangles in this diagram are similar? (Make sure you list the vertices in the corresponding orders.) If $AB = 25$, $AC = 15$, and $BC = 20$, what are AX, BX, and CX?