

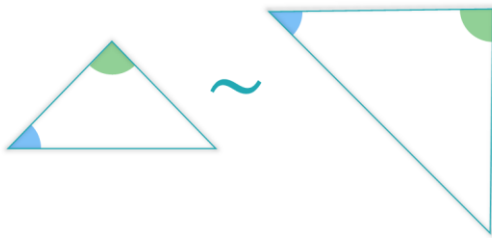
Two **triangles** are **similar** (\sim) if they have the same shape.

► Similar triangles can be different **sizes** and **rotations**.



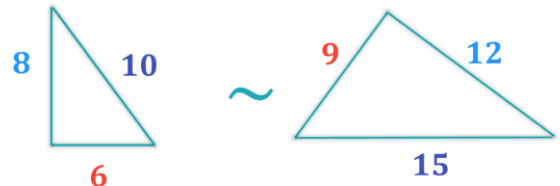
Angle-Angle (AA) Similarity Theorem

Two triangles are similar \sim \iff The triangles share two equal angles.



Side-Side-Side (SSS) Similarity Theorem

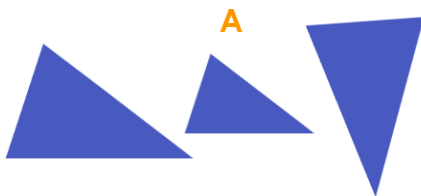
Two triangles are similar \sim \iff All corresponding side ratios are equal.



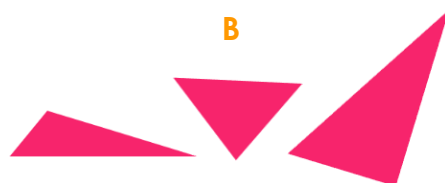
$$\frac{10}{15} = \frac{8}{12} = \frac{6}{9}$$

CFU

Which of the following sets of triangles appear to be similar?
How do you know?

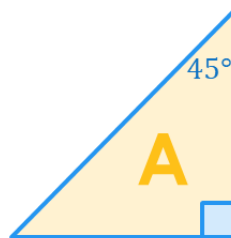


A

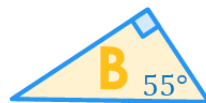


B

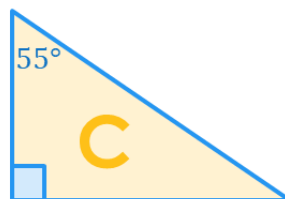
Which of the following triangles are similar?
How do you know?



A

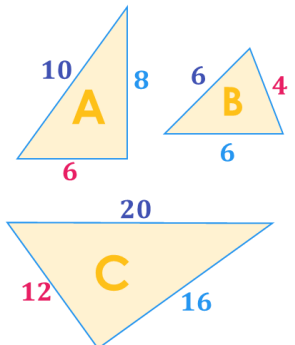


B



C

Which two triangles are similar? How do you know?



1 $\triangle A \stackrel{?}{\sim} \triangle B$ 2 $\triangle A \stackrel{?}{\sim} \triangle C$

$$\frac{10}{20} = \frac{8}{16} = \frac{6}{12}$$

$$\frac{1}{2} = \frac{1}{2} = \frac{1}{2}$$

$$\frac{10}{6} = \frac{8}{6} = \frac{6}{4}$$

$$\frac{5}{3} = \frac{4}{3} = \frac{3}{2}$$

Similar (\sim) Triangle Notation

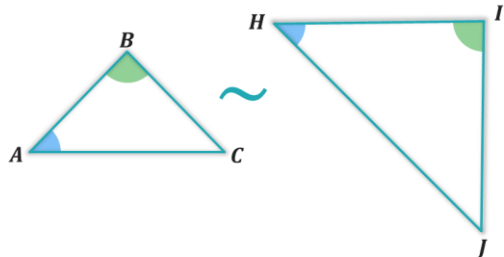
The order of the letters shows the correspondence between the points of each triangle.

$$\triangle ABC \sim \triangle HIJ$$

$$A \leftrightarrow H$$

$$B \leftrightarrow I$$

$$C \leftrightarrow J$$



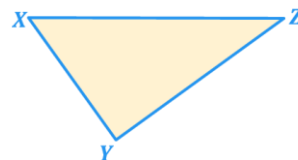
What are the corresponding points between these similar triangles? How do you know?



$$A \leftrightarrow \square$$

$$B \leftrightarrow \square$$

$$C \leftrightarrow \square$$

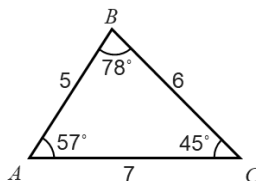


$$\triangle ABC \sim \square$$

Skill Development/Guided Practice

1. Identify which similar triangle theorem to use.
2. Determine whether the triangles are similar.
3. Use geometry notation to write the similarity statement.

Which of the following triangles is similar to $\triangle ABC$?



Similar Triangle Theorems

Two triangles are similar \sim



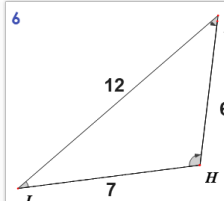
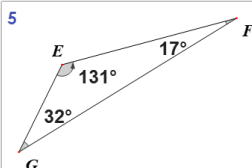
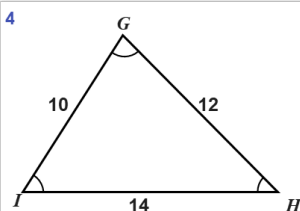
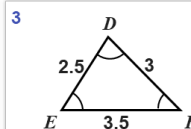
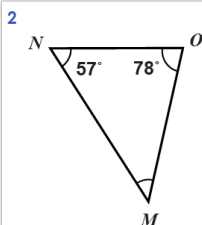
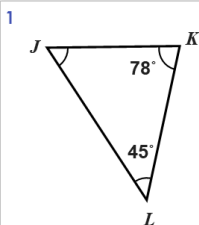
Angle-Angle Similarity

The triangles share two equal **angles**.

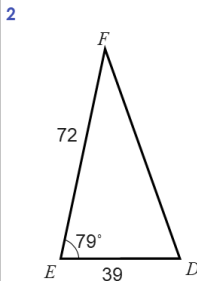
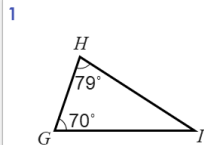
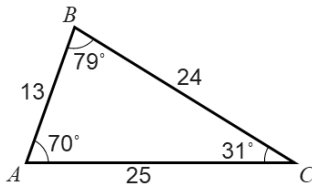


Side-Side-Side Similarity

All corresponding **side** ratios are equal.



Which of the following triangles is similar to $\triangle ABC$?



Similar Triangle Theorems

Two triangles are similar ~

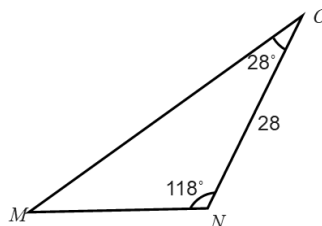
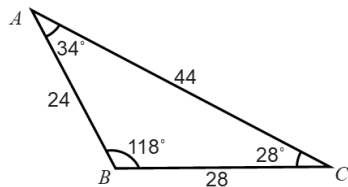


The triangles share two equal **angles**.



All corresponding **side** ratios are equal.

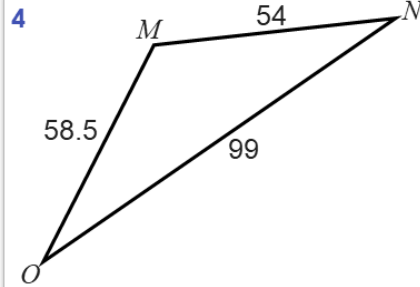
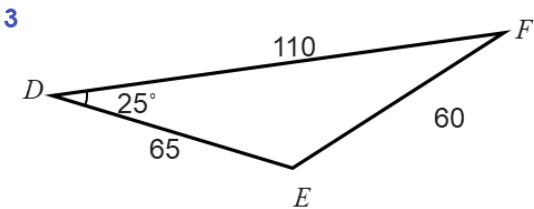
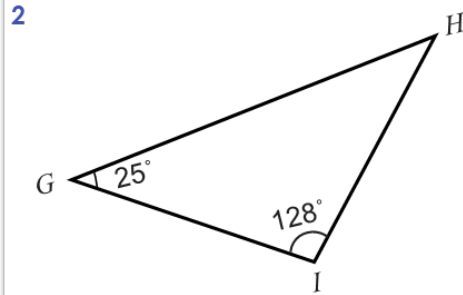
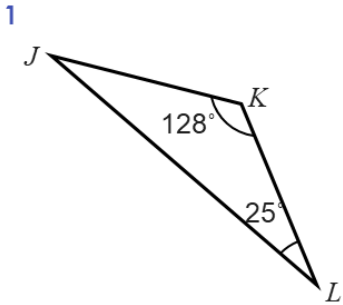
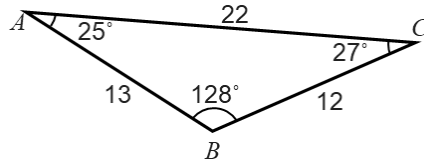
Writing



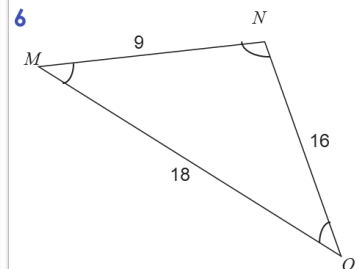
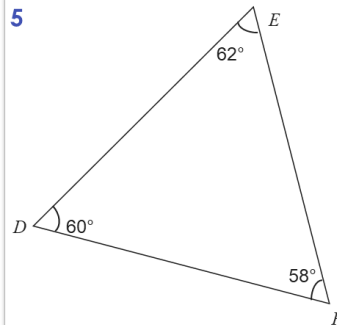
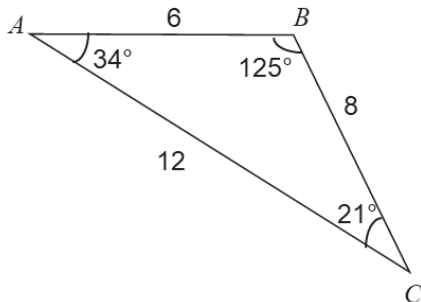
Emma thinks the two triangles are not similar. Is she correct? Why or why not?

What did you learn today about proving two triangles are similar?

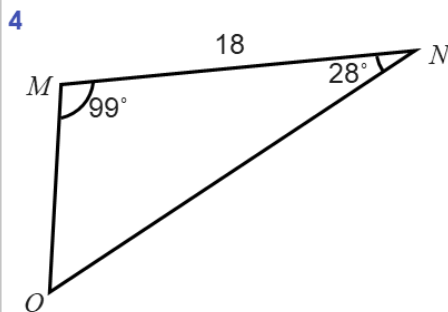
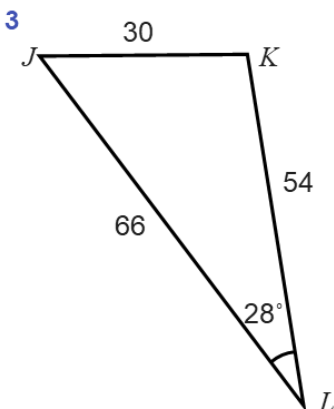
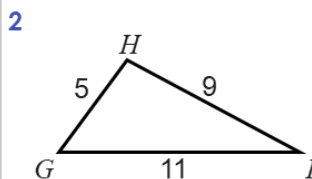
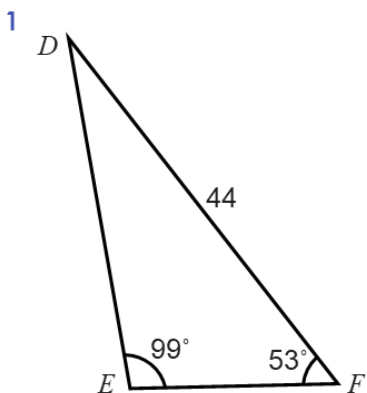
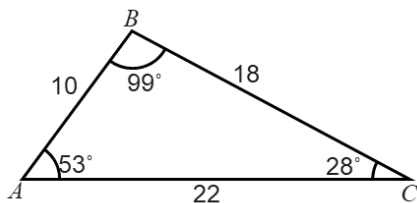
Which of the following triangles is similar to $\triangle ABC$?



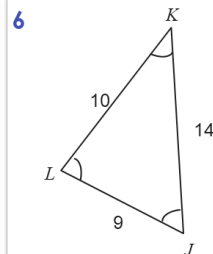
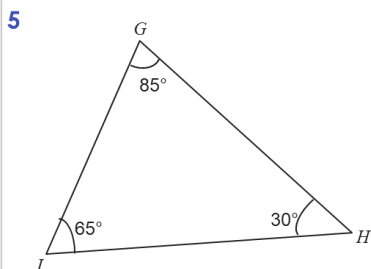
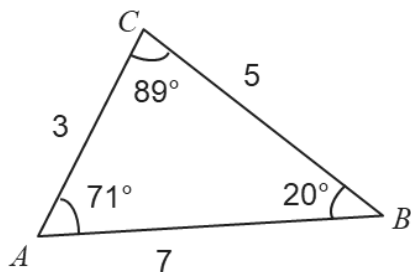
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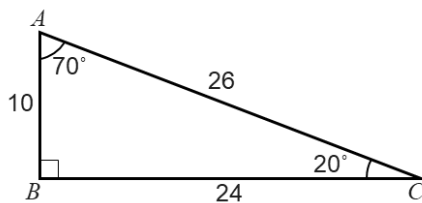
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Which of the following triangles is similar to $\triangle ABC$?



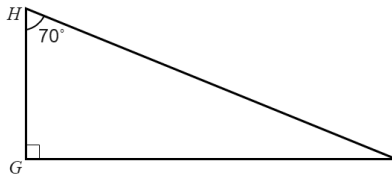
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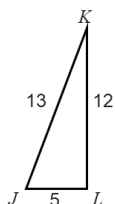
1



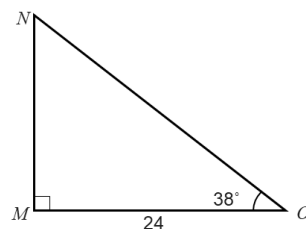
2



3

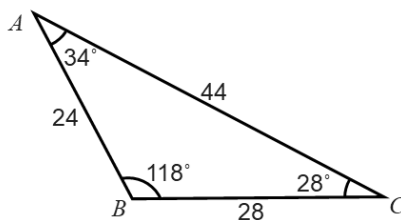


4

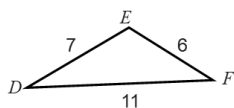


Periodic Review 3

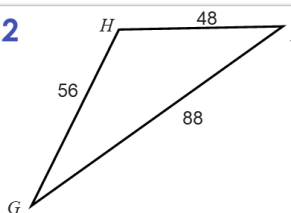
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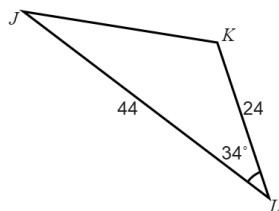
1



2



3



4

