Date: _____

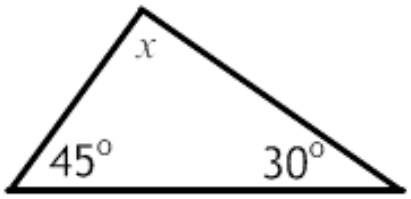
Similar Triangles

Sum of Angles in a Triangle

All 3 angles in a triangle add to _____

Example 1

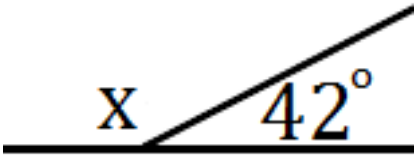
Solve for x.



Supplementary angles always add to _____

Example 2

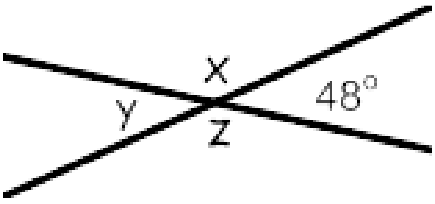
Solve for x.



Opposite angles are always equal.

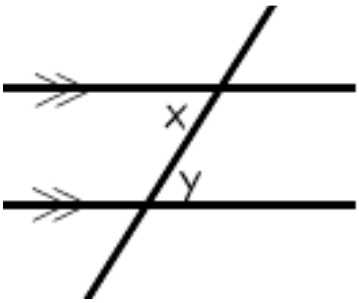
Example 3

Solve for x, y and z.

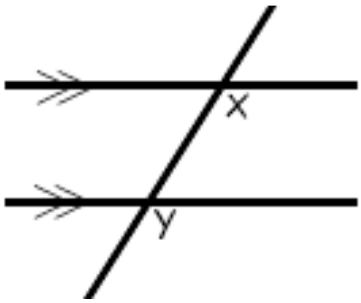


Parallel Lines

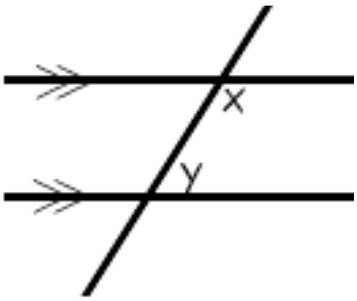
Z Pattern



F Pattern

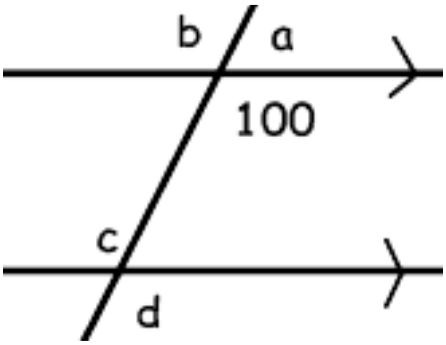


C Pattern

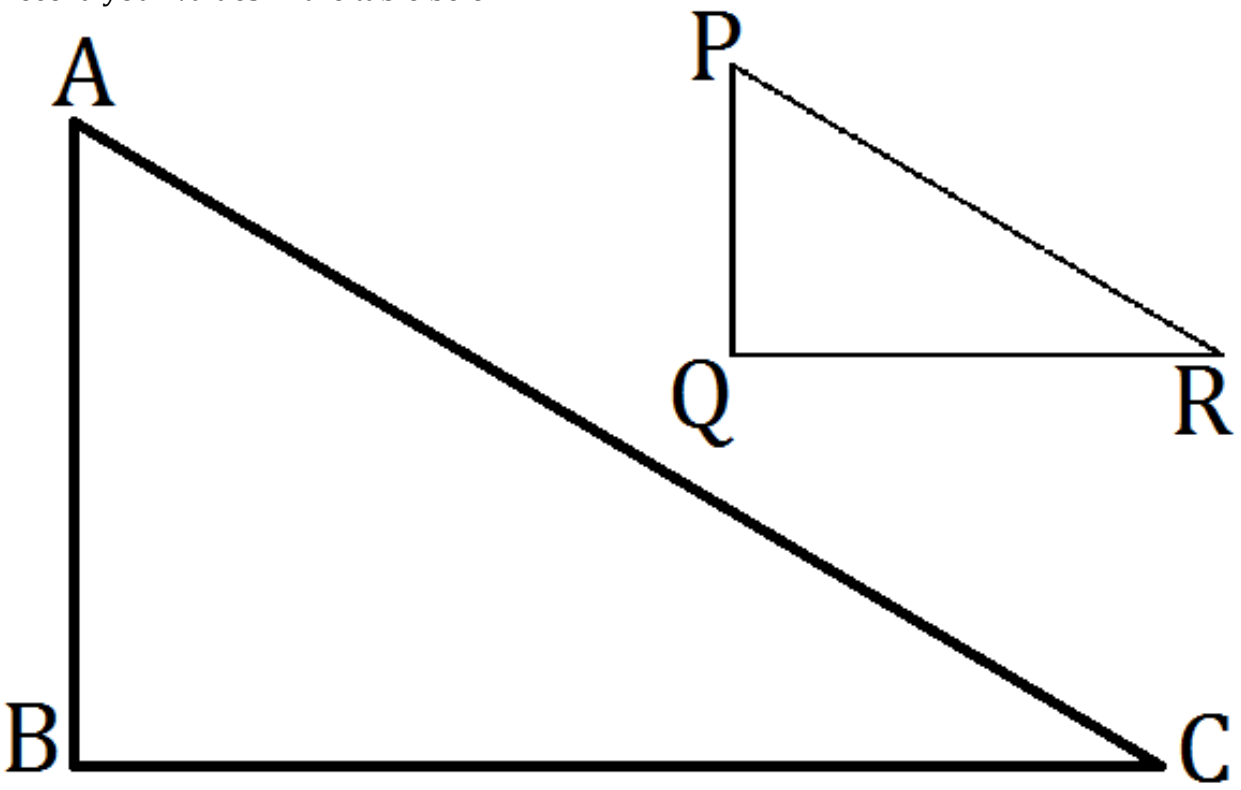


Example 4

Find the value of the unknowns.



Using a ruler and a protractor, measure the side lengths and angles in ΔABC and ΔPQR. Record your values in the table below.



ΔABC		ΔPQR		Ratios
Angles	Lengths	Angles	Lengths	
$\angle A =$	$\overline{BC} =$	$\angle P =$	$\overline{QR} =$	$\frac{\overline{BC}}{\overline{QR}} =$
$\angle B =$	$\overline{AC} =$	$\angle Q =$	$\overline{PR} =$	$\frac{\overline{AC}}{\overline{PR}} =$
$\angle C =$	$\overline{AB} =$	$\angle R =$	$\overline{PQ} =$	$\frac{\overline{AB}}{\overline{PQ}} =$

How are the angles related?

_____

_____

How do the ratios compare?

_____

_____

_____

_____

When 2 triangles are similar, we say that $\Delta ABC \sim \Delta DEF$.

The order of the letters means that:

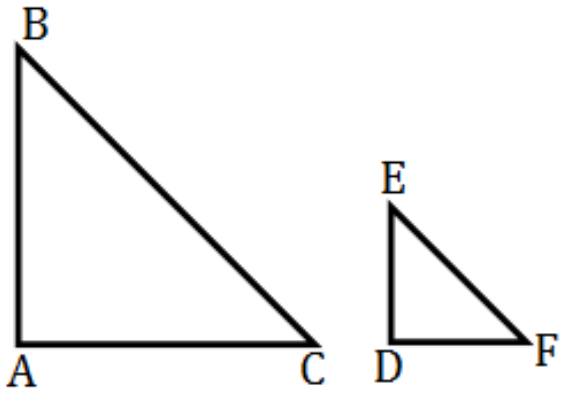
$\angle A =$_____

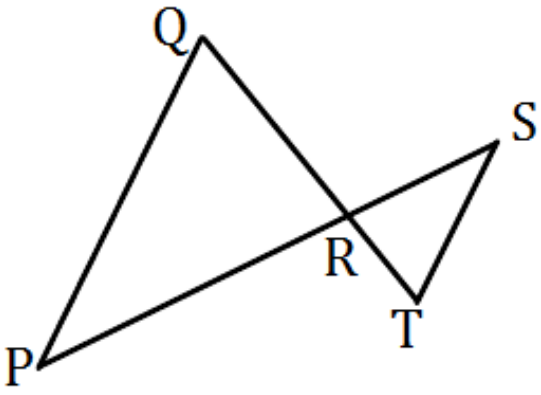
$\angle B =$_____ and $\frac{\overline{AB}}{\overline{DE}} = \frac{\overline{BC}}{\overline{}} = \frac{\overline{AC}}{\overline{}}$

$\angle C =$_____

Example 1

Complete the statements about the pair of similar triangles.



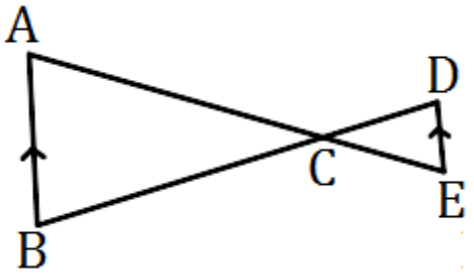


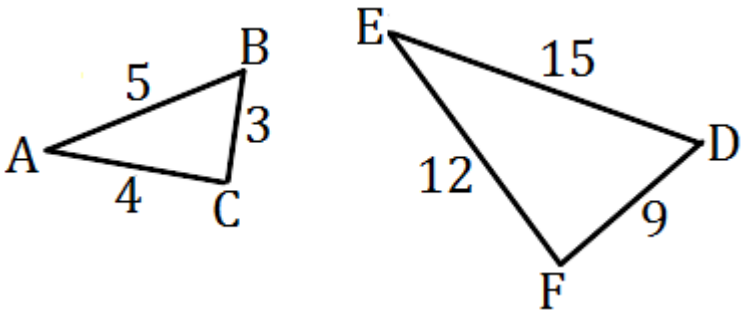
Two triangles are similar if:

1. the corresponding angles are equal.
2. the lengths of the corresponding sides are proportional.

Example 2

Determine if the following pairs of triangles are similar.

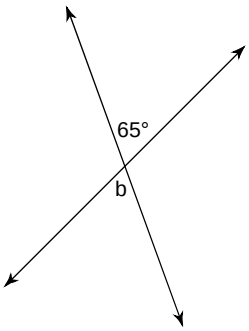




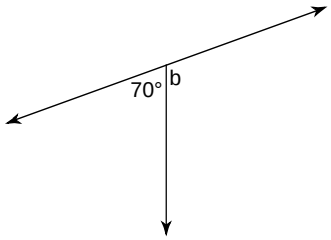
Angle Measurement Homework

Find the measure of angle b.

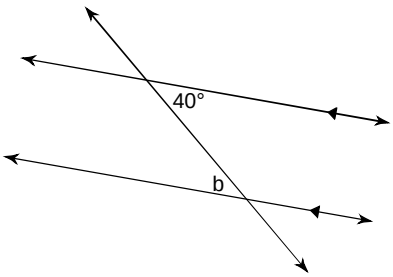
1)



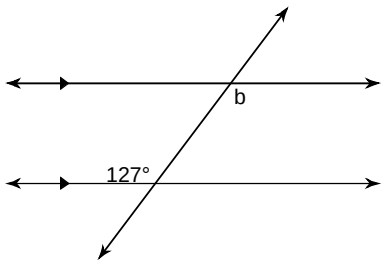
2)



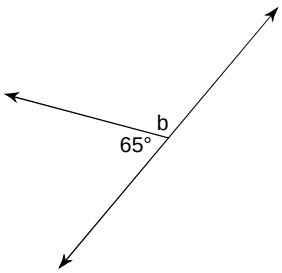
3)



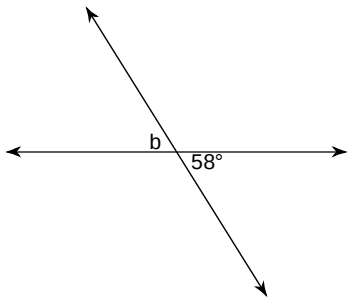
4)



5)

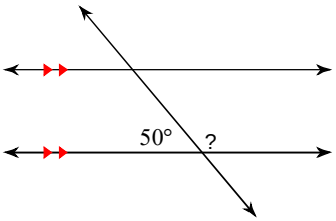


6)

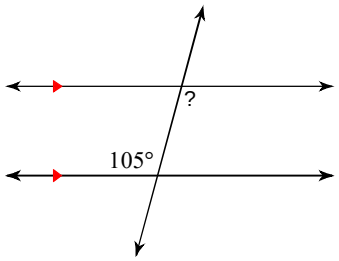


Find the measure of each angle indicated.

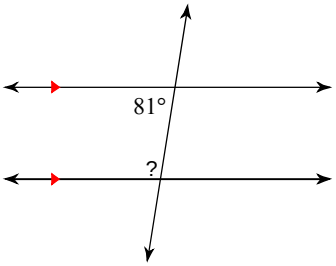
7)



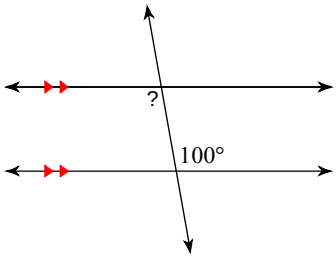
8)



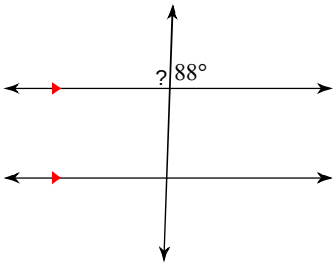
9)



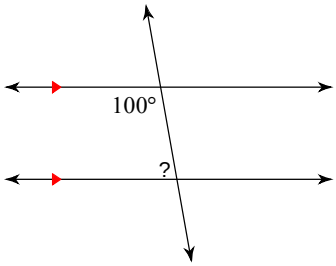
10)



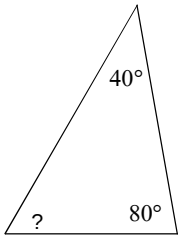
11)



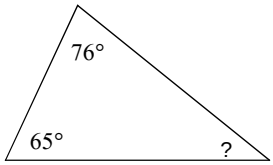
12)



13)

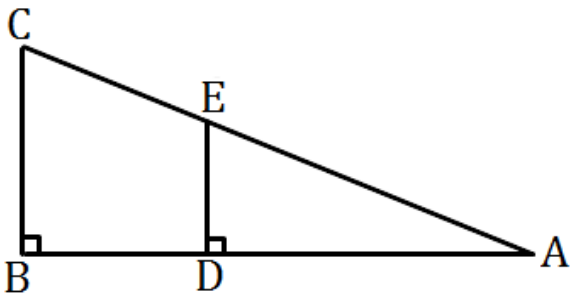


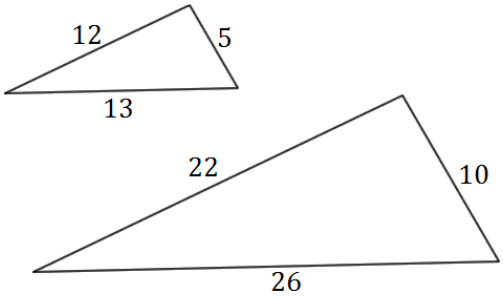
14)

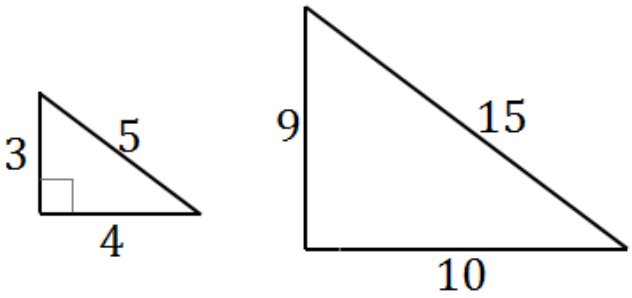


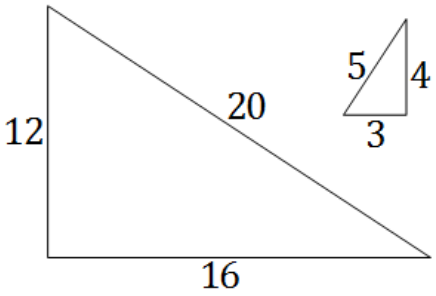
Homework

Are the following triangles similar?

1. 

2. 

3. 

4. 

Answers

1. Yes
2. No
3. No
4. Yes