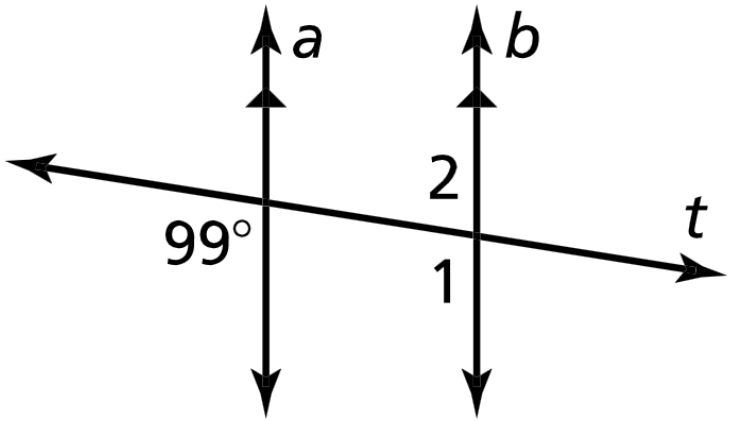
3.2

ANGLES OF TRIANGLES

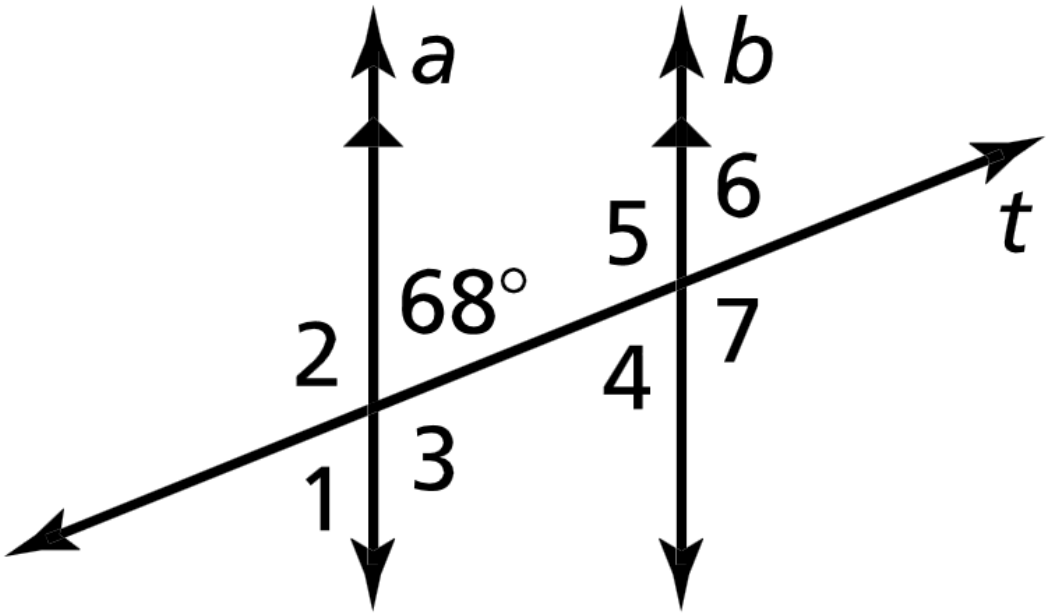
Do Now

1) Use the figure to find the measures of (a) $\angle 1$ and (b) $\angle 2$.



Do Now

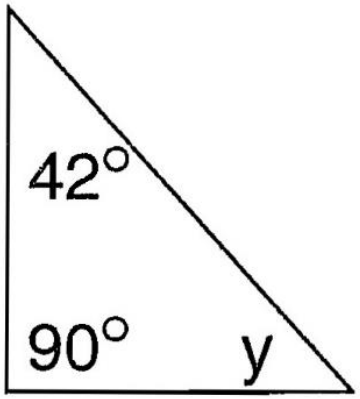
2)



Investigating…

What do all the interior angles add up to in a triangle?

1) **Find the missing angle algebraically.**



What do all the interior angles add up to in a triangle?

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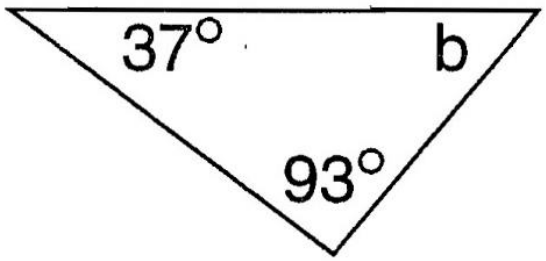
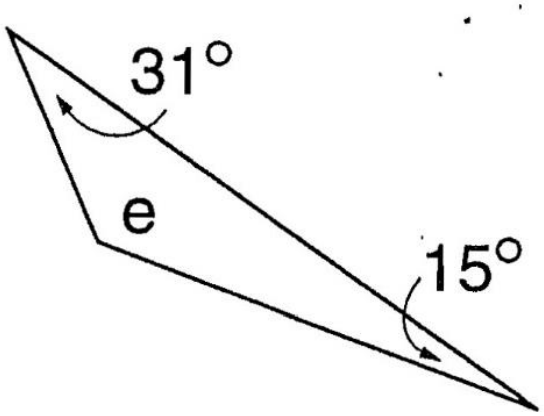
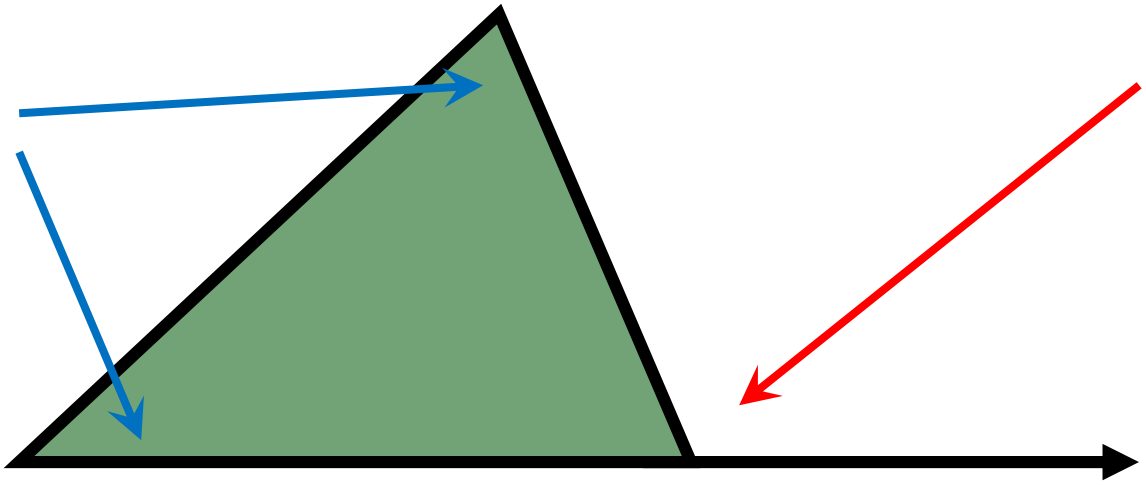


What do all the interior angles add up to in a triangle?

3) Find the missing angle algebraically.



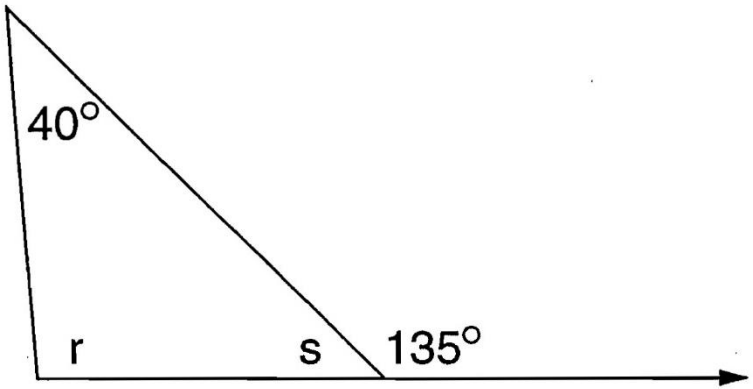
Exterior Angle



If you extend one side of a triangle from the vertex, you form an exterior angle.

Find the missing variables. (For this problem you don't need to solve it algebraically)

4)



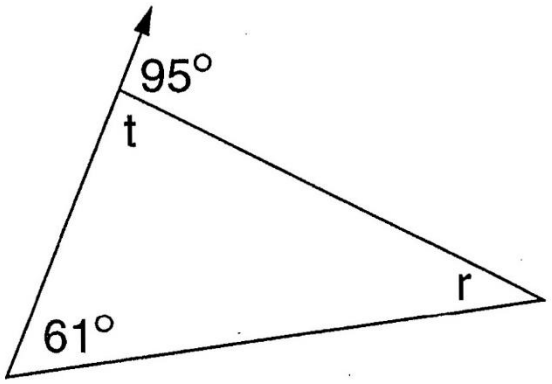
Color the remote interior angles the same color.

Color the exterior angle a different color.

What do you notice is the relationship between the exterior angle and the remote interior angles?

Find the missing variables. (For this problem you don't need to solve it algebraically)

5)



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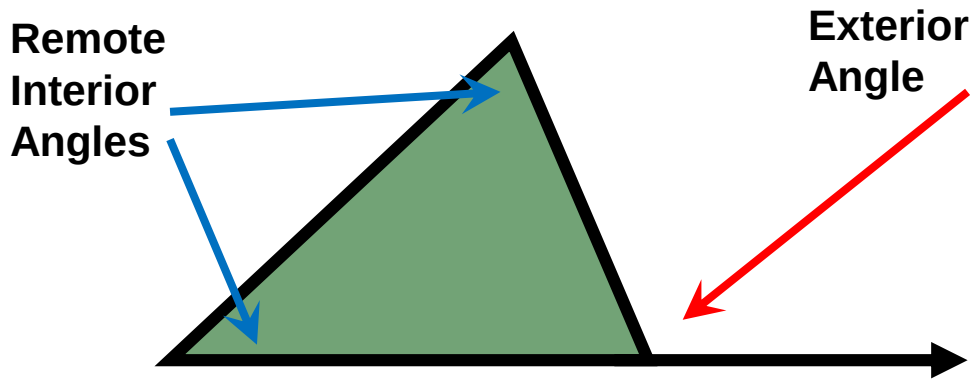


Triangle Interior Angles Sum

The _____ of all the _____ in a triangle is _____ .

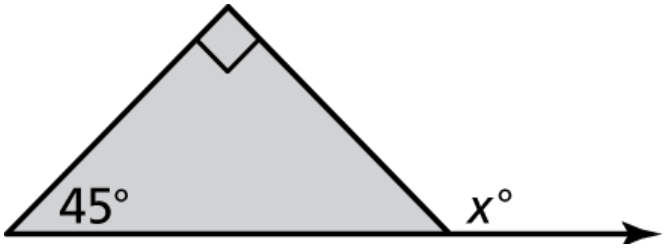
Triangle Exterior Angle Sum

The measure of an exterior angle of a triangle is _____ to the _____ of the _____ _____ _____ .

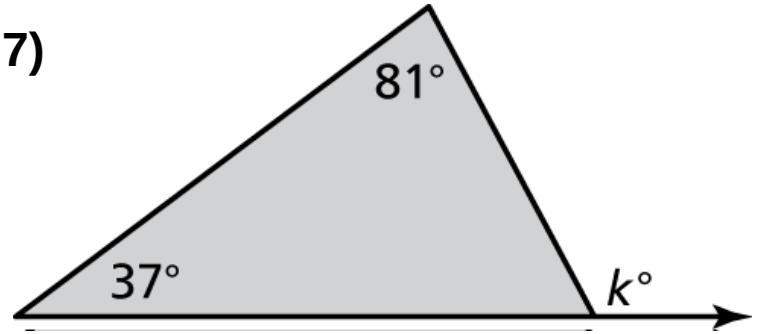
Practice

Find the missing angle algebraically.

6)

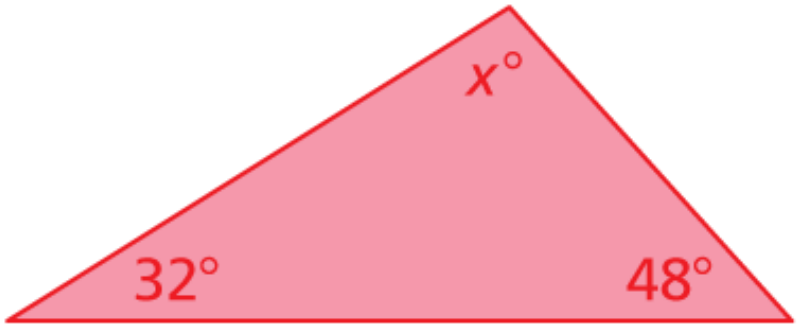


7)



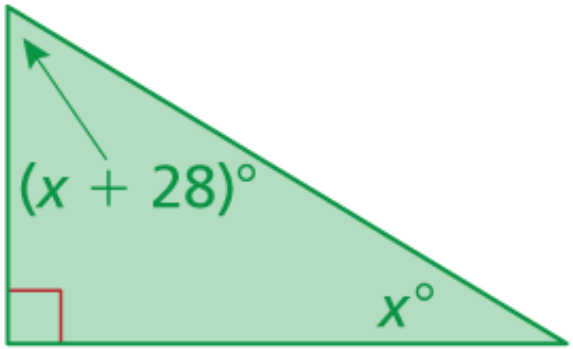
Putting it all together…

7) **Find value of *x* algebraically.**



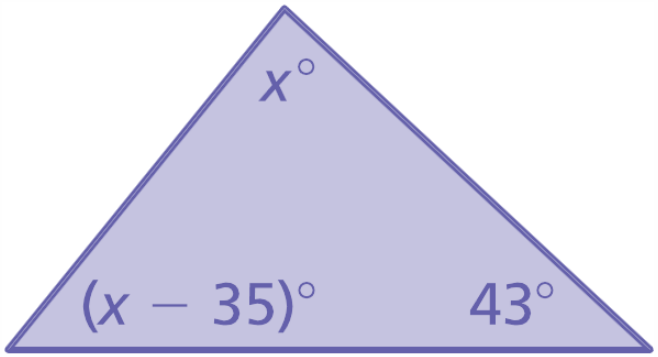
Putting it all together…

8) **Find value of *x* algebraically.**



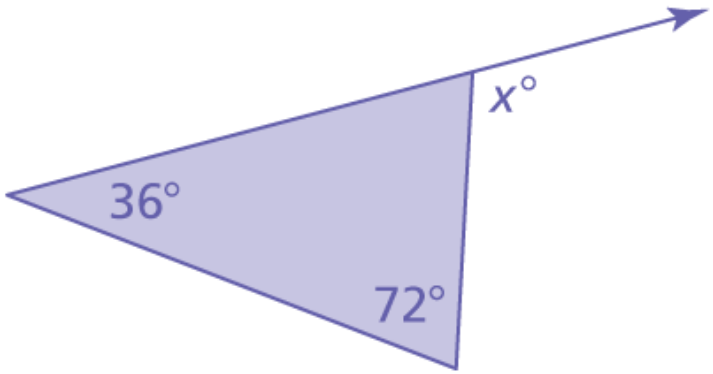
Putting it all together…

9) Find value of *x* algebraically.



Find the missing variables algebraically.

10)



Find the missing variables algebraically. Afterwards, find the measure of the exterior angle.

10)