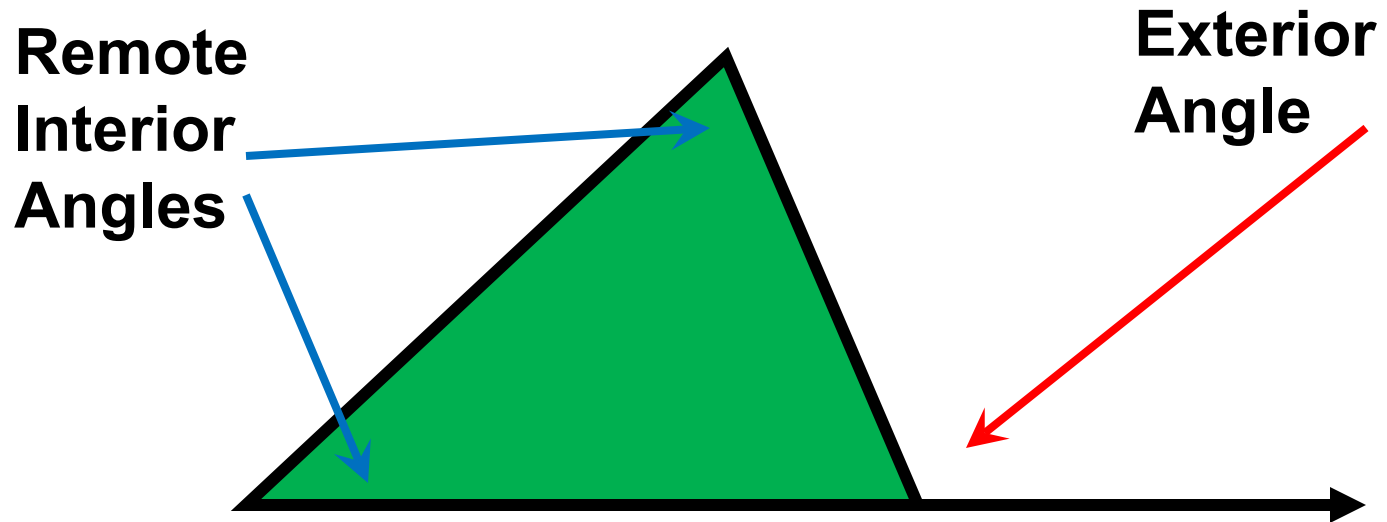


4.1

TRIANGLE SUMS

Triangle sum theorem
Third angle postulate
Third angle theorem

Exterior Angle

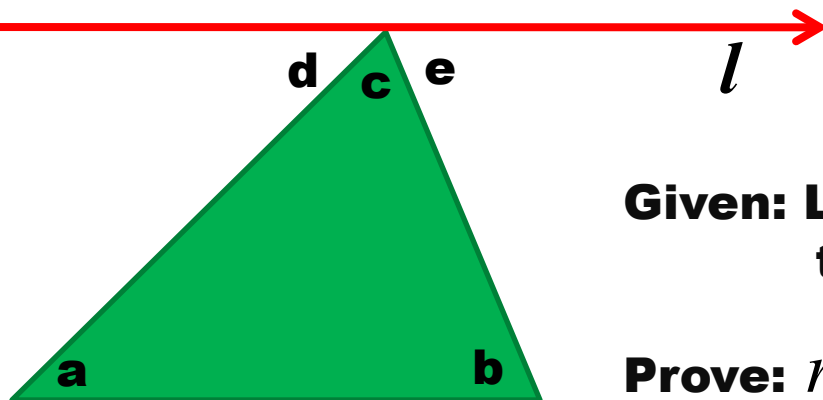


If you extend one side of a triangle from the vertex, you form an exterior angle.

Exploring...

What would you conjecture is the relationship between all the angles in a triangle?

What would you conjecture is the relationship between remote interior angles and the exterior angle in a triangle?



Given: Line l is parallel to the base of the triangle

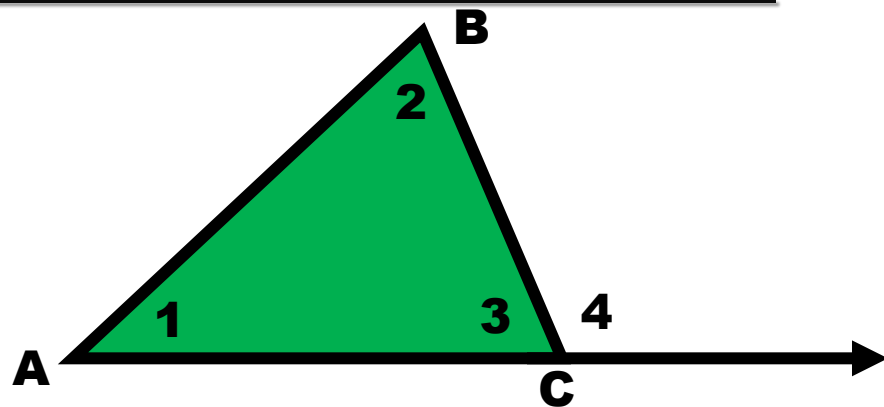
Prove: $m\angle a + m\angle b + m\angle c = 180$

Statements

Reasons

Given: $\triangle ABC$ as shown

Prove: $m\angle 1 + m\angle 2 = m\angle 4$



Statements

Reasons

Triangle Sum Theorem



POK

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



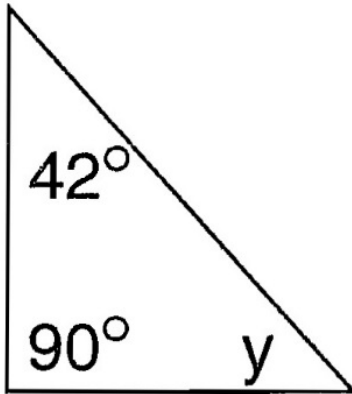
POK

Triangle Exterior Angle Theorem

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

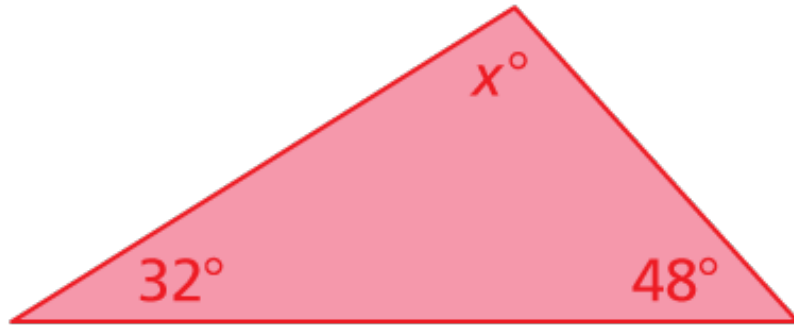
What do all the interior angles add up to in a triangle?

1) Find the missing angle algebraically.



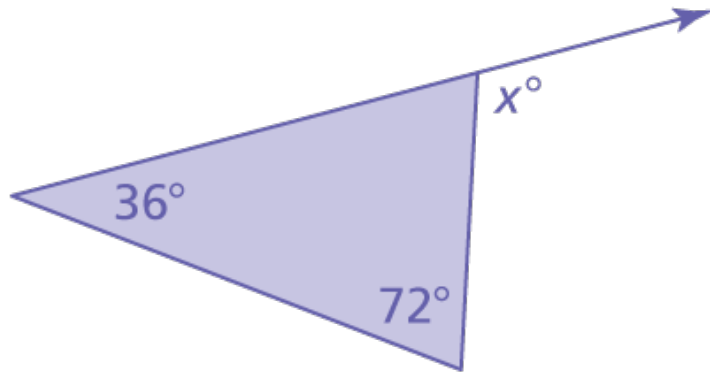
Putting it all together...

2) Find value of x algebraically.



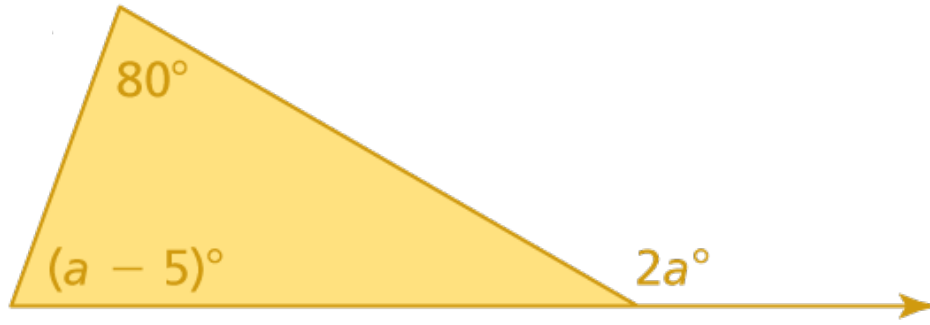
Find the missing variables algebraically.

3)

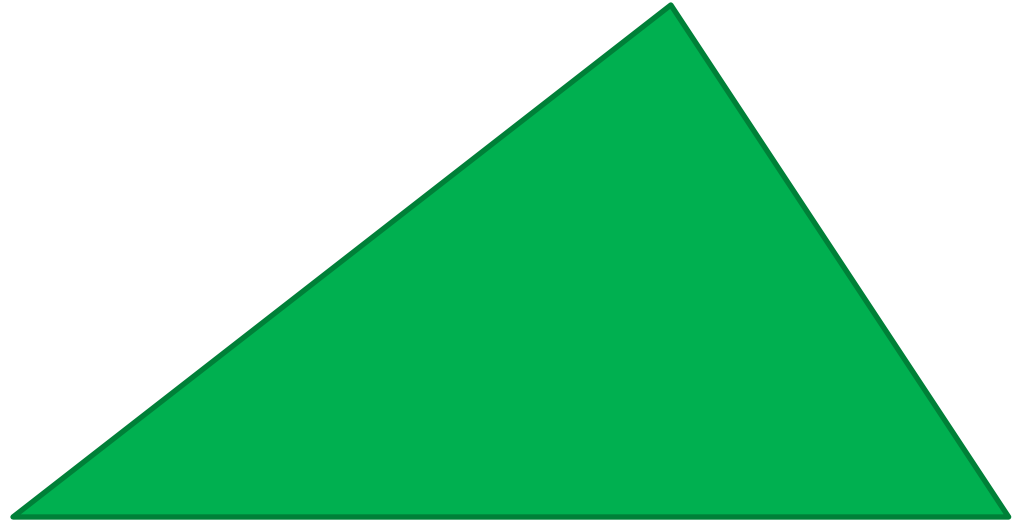
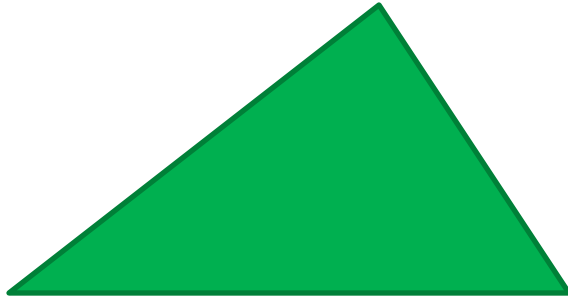


Find the missing variables algebraically. Afterwards, find the measure of the exterior angle.

4)



Third Angle Theorem



If _____ one triangle are congruent
to _____ in an other triangle, then

_____ .

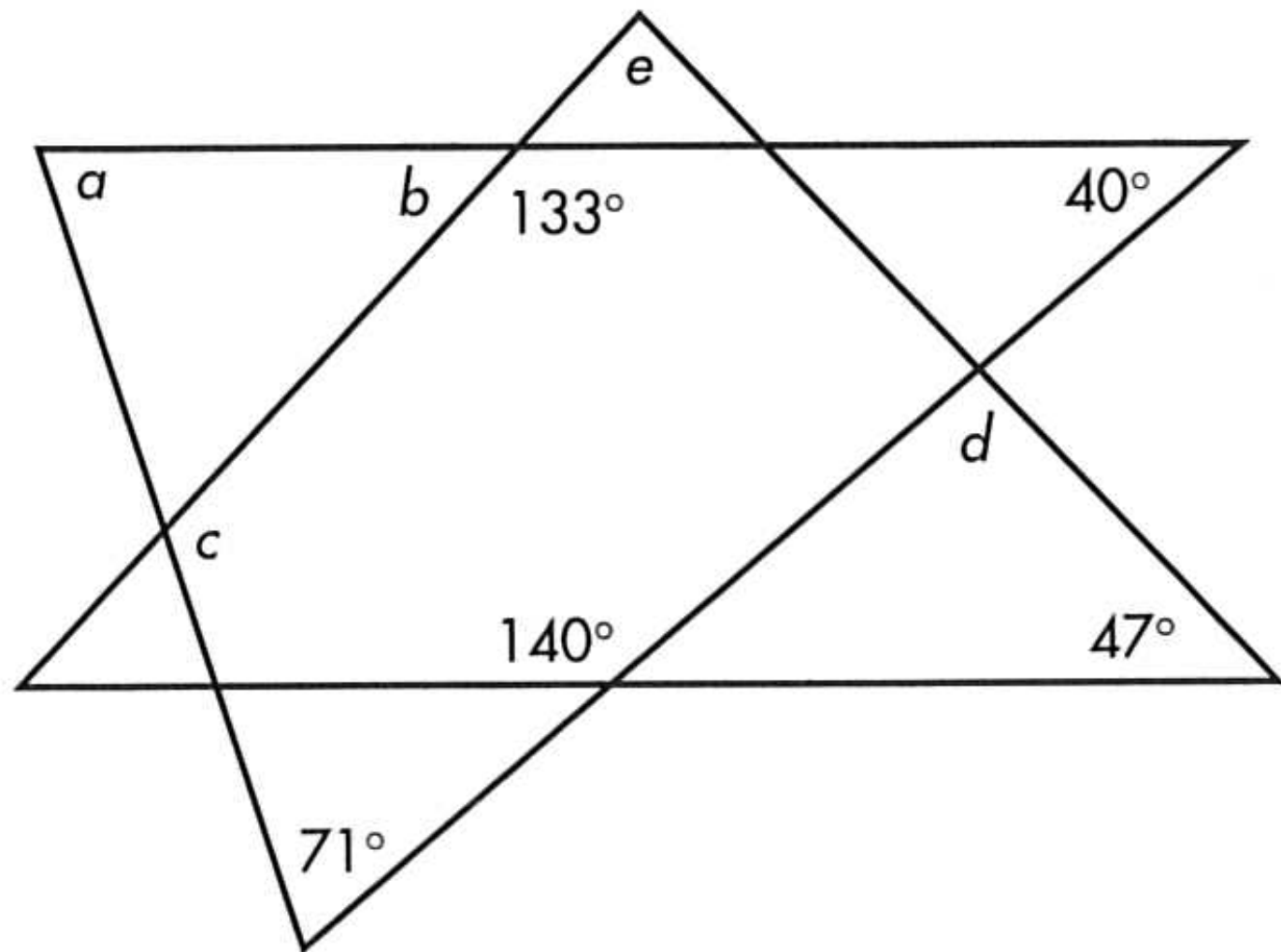
7.* $a = -?-$

$b = -?-$

$c = -?-$

$d = -?-$

$e = -?-$



8. $m = -?-$
 $n = -?-$
 $p = -?-$
 $q = -?-$
 $r = -?-$
 $s = -?-$
 $t = -?-$
 $u = -?-$

