Tricky Triangles: Paper-cut activity that examines the relationships of angles of triangles and other polygons.

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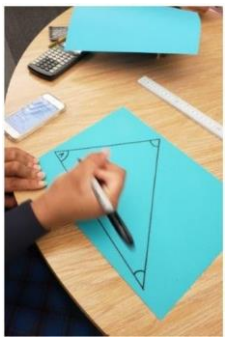
Level: Senior Grades

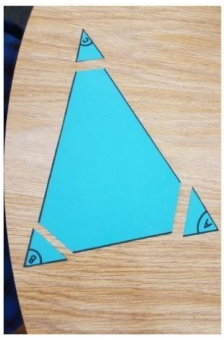
Concepts: Geometry and Measurement, Problem Solving

Materials: Construction paper or cardstock (different colours)/scissors/pen or pencil/ruler/coloured pencils/glue or tape

Interior Angles Procedure:

1. Sketch a triangle on a piece of paper. This can be any size or type. Do you know of any specific types of triangles?
2. Mark the angles inside the triangle as A, B, C. As shown in the diagram. You can colour these three angles with different colours.
3. Cut out the triangle first and then cut out or tear off the three coloured angles.
4. On a second piece of paper, arrange the three angles on a line. How do they fit? What do you now about the angle of a straight line?
5. Complete a second triangle (different size and shape from the first) and see how the angles fit.



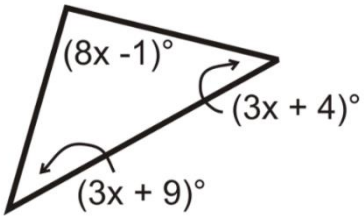


The triangle sum theorem states that all angles in a triangle add to ____. [If you have a protractor use it to measure the angles and verify, they add up to this amount]

Triangle Puzzles

1. Two interior angles of a triangle measure 50° and 70°. What is the third interior angle of the triangle?

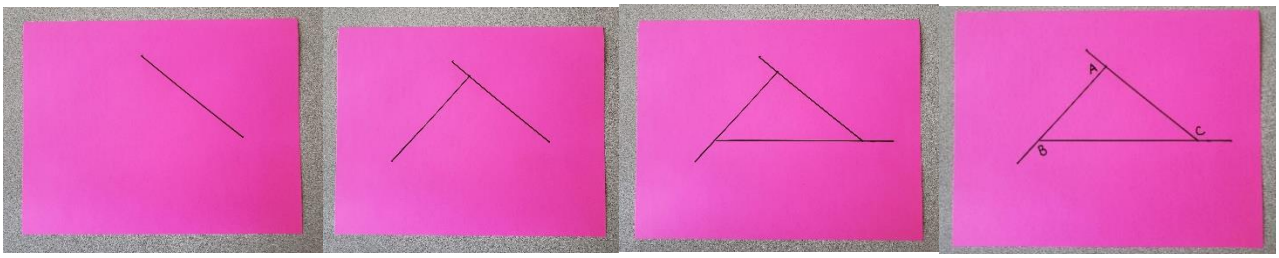
2. Find the value of x and the measure of each angle.



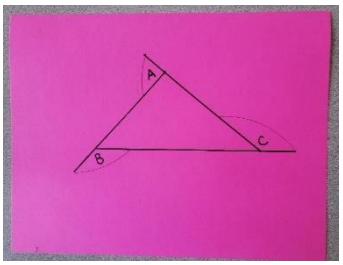
What about the *exterior* angles in a triangle?

Exterior Angles Procedure:

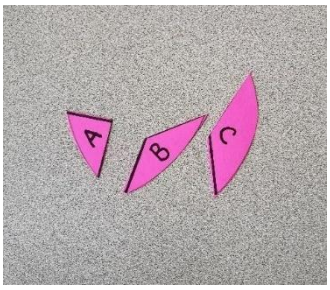
1. Sketch a triangle on a piece of paper and be sure to extend the lines.



2. Mark the angles between the triangle and the line as A, B, and C as shown.



3. Draw in the arcs of each angle. You can colour in the arcs.



4. Cut out all the arcs and arrange the three arcs. What shape does it form? How many degrees does this add to?