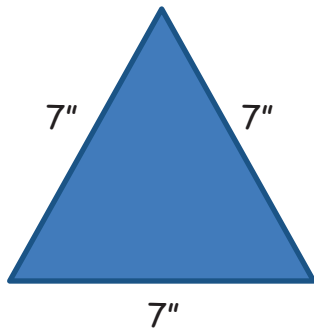


Figuring Perimeters of Regular Polygons

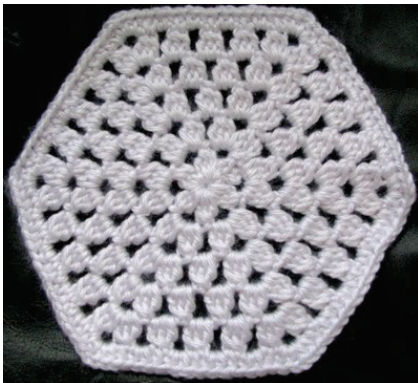
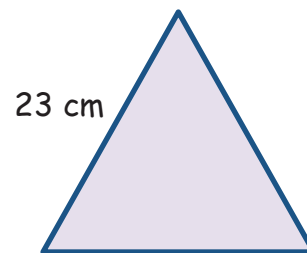
Directions: For each polygon find the perimeter and then describe your reasoning.

1. What is the perimeter of the triangle below? How did you figure it out?



Triangles that have three sides of the same length are called *equilateral* triangles. The triangle above is an equilateral triangle.

2. What is the perimeter of the equilateral triangle on the right? How did you figure it out?



3. Sara thinks her regular hexagon coaster needs something bright around the edges. If one side of the coaster is 6 cm long, how many cm of trim would she need? How did you figure it out?

4. What is the perimeter of the 8" square frame on the right? How did you figure it out?

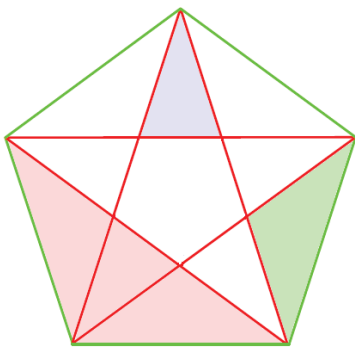


5. The regular octagon rug on the left has a strip of anti-skid tape running around the edge on the underside. The rug measures 4 feet on a side. How many feet of tape were needed to edge the rug? How did you figure it out?

6. Donna bought 15 feet (180 inches) of lace trim to go around her plain black octagon tablecloth. The tablecloth measures 24 inches on each side. Did she buy enough lace for her project? How did you figure it out?



7. Tia wants to put white trim around her 10-inch square punched paper card on the right. How many inches of trim will she need? How did you figure it out?

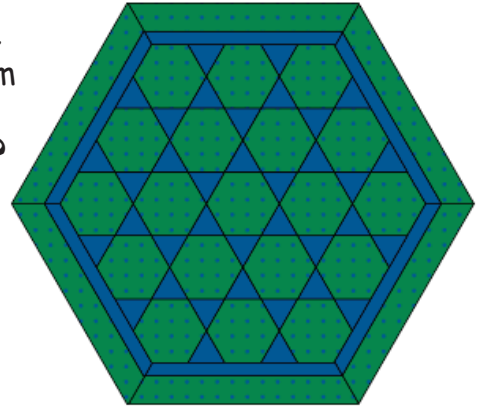


8. Tamara's son drew the nifty star on the left. Then he decided to outline it, creating a regular pentagon. If the length from one point of the star to the next is 5 inches, how long is the line outlining the star? How did you figure it out?

9. A stop sign is usually outlined in white. If one side is 12 inches, how many inches total would be outlined in white? How did you figure it out?



10. Aaron just created a hexagon table top (at right). He put a veneer edging around it to protect the edge from wear. If one side of the table is 15 inches, how many inches of veneer did he use? How did you figure it out?



Look back at the examples of the regular polygons on pages 1 - 3. Think about how you figured out the different perimeters.

Give a rule for finding the perimeter of any equilateral triangle.

Give a rule for finding the perimeter of a square.

Give a rule for finding the perimeter of a pentagon.

Give a rule for finding the perimeter of a hexagon.

Give a rule for finding the perimeter of an octagon.

Based on your rules, explain how you could find the perimeter of **any** regular polygon.

A regular polygon is a multi-sided two-dimensional shape that has all equal sides. An equilateral triangle is a regular polygon because all three sides are the same length. A square is a regular polygon because it has four equal sides.