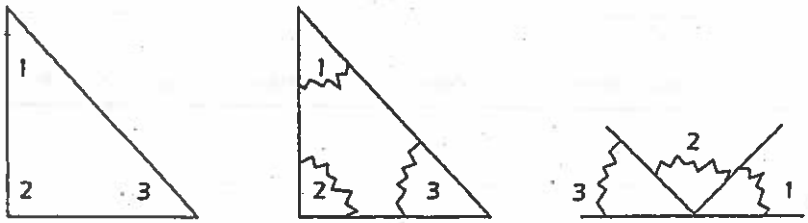
Activity

Angle Sums

Exploring the angles within shapes provides insights into the relationships within and between shapes. What is the sum of the angle measurements in a triangle? Draw three different triangles—perhaps an equilateral triangle (all sides and all angles congruent), an isosceles triangle (two sides and two angles congruent), and a scalene triangle (all sides and all angles different). Mark the vertices on each triangle with a point, and label the angles 1, 2, and 3. Cut out the triangles. Tear off the corners of each triangle. Draw straight lines, label a point, and place the angles from the torn corners of one triangle adjacent and touching so that all three marked vertices meet at the point. What do you notice?

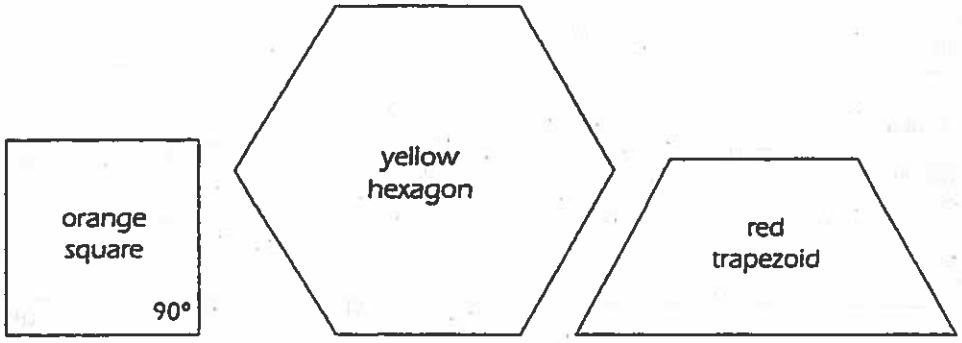


Activity

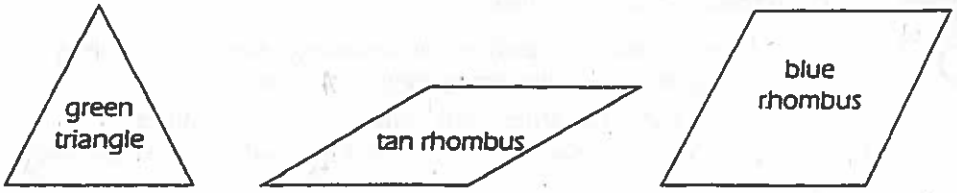
Angle Measures in Other Shapes

Materials: pattern blocks.

What does each angle on the different pattern blocks measure? What information can you use to help you determine the angle measures? What is the sum of the angle measures in each block? Fill in the information on the drawings that follow.



sum = _____ sum = _____ sum = _____



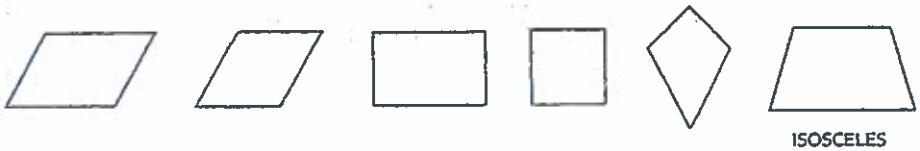
sum = _____ sum = _____ sum = _____

Activity

Properties of Quadrilaterals

Materials: either use models or make drawings of each of the quadrilaterals before you begin.

Determine which of the listed quadrilaterals have the indicated characteristics. Fill in the chart. As you do, think about how distinctions can be made between these figures on the basis of their properties.



CHARACTERISTICS	PARALLELOGRAM	RHOMBUS	RECTANGLE	SQUARE	KITE	ISOSCELES TRAPEZOID
All sides congruent						
Both pairs of opposite sides congruent						
Adjacent sides congruent						
All angles congruent						
Opposite angles congruent						
Both pairs of opposite sides parallel						
Congruent diagonals						
Diagonals perpendicular						
Has reflective symmetry						
Has rotational symmetry						

Activity

Categorizing Quadrilaterals

Which quadrilaterals fit each of the following clues? (A clue may apply to more than one figure, depending on its degree of specificity.)

1. Figure A has 4 congruent sides and 4 congruent angles.
2. Figure B has 4 sides that are congruent, but the 4 angle measures are not equal.
3. Figure C has 2 pairs of congruent sides and 4 congruent angles.
4. Figure D has only 1 pair of parallel sides.
5. Figure E has exactly 2 pairs of congruent sides.