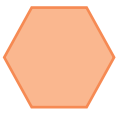
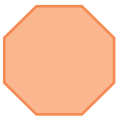
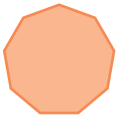
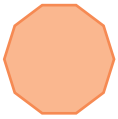
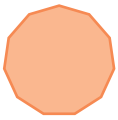
Polygons Matching Pairs

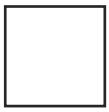
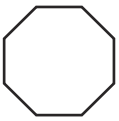
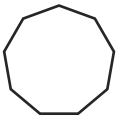
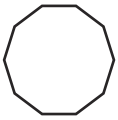
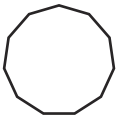
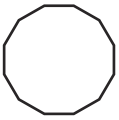
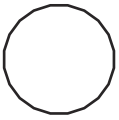
Match each polygon with the correct description of its angle properties.
All the polygons in these questions are regular.

 Equilateral Triangle →	If you round each of my exterior angles to 1d.p. the result is 51.4°.
 Square →	The sum of my interior angles is 1440°.
 Pentagon →	When you subtract the size of one of my interior angles from 180° the result is 32.7° to 1d.p.
 Hexagon →	The sum of half of my interior angles is 900°.
 Heptagon →	Each of my exterior angles is less than 20°.
 Octagon →	My interior and exterior angles are equal in size.
 Nonagon →	The sum of my interior angles is 1080°.
 Decagon →	Each of my interior angles is 108°.
 Hendecagon →	The size of each interior angle is double the size of each exterior angle.
 Dodecagon →	The size of each exterior angle is double the size of each interior angle.
 Icosagon (20 sides) →	Two of my exterior angles add up to 80°.

Extension: Write down the number of sides of each shape. Calculate the sizes of an interior angle and an exterior angle for each shape.

Polygons Matching Pairs Answers

Number of sides (S), exterior angle (E), interior angle (I).

 Equilateral Triangle S = 3, I = 60°, E = 120°	The size of each exterior angle is double the size of each interior angle.
 Square S = 4, I = 90°, E = 90°	My interior and exterior angles are equal in size.
 Pentagon S = 5, I = 108°, E = 72°	Each of my interior angles is 108°.
 Hexagon S = 6, I = 120°, E = 60°	The size of each interior angle is double the size of each exterior angle.
 Heptagon S = 7, I = 128.6° (1d.p.), E = 51.4°	If you round each of my exterior angles to 1d.p. the result is 51.4°.
 Octagon S = 8, I = 135°, E = 45°, 135 × 8 = 1080°	The sum of my interior angles is 1080°.
 Nonagon S = 9, I = 140°, E = 40°, 2 × 40 = 80°	Two of my exterior angles add up to 80°.
 Decagon S = 10, I = 144°, E = 36°, 144 × 10 = 1440°	The sum of my interior angles is 1440°.
 Hendecagon S = 11, I = 147.3° (1d.p.), E = 32.7°	When you subtract the size of one of my interior angles from 180° the result is 32.7° to 1d.p.
 Dodecagon S = 12, I = 150°, E = 30°, 6 × 150 = 900°	The sum of half of my interior angles is 900°.
 Icosagon S = 20, I = 162°, E = 18°	Each of my exterior angles is less than 20°.