Angles in polygons ❷

1 Calculate the missing angle of each shape.
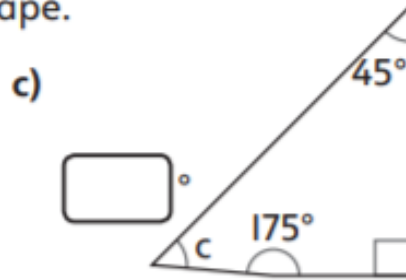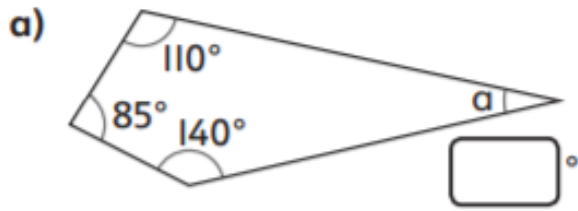
a)

110°
85° 140°
a
□°

c)

45°
□° 175°
c

b)

60°
□° b 170°
30°

d)

28°
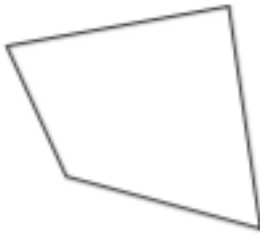35° 270°
□°
d
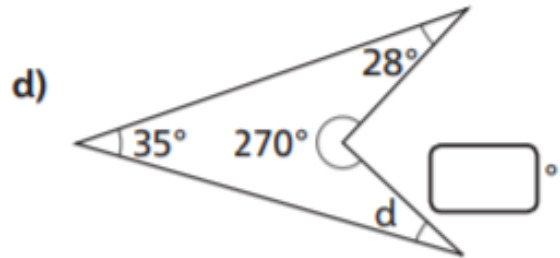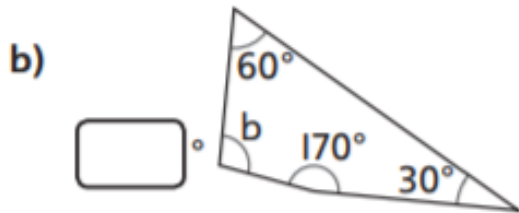
2 In each shape one angle has been labelled incorrectly. Identify this angle and calculate its correct value.

a)

b
c
50°
a
75°
45°
d

b)

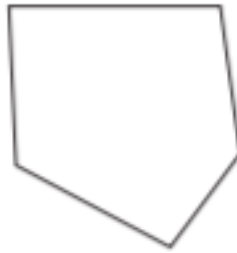a
38°
253°
48° c 94°
b
d
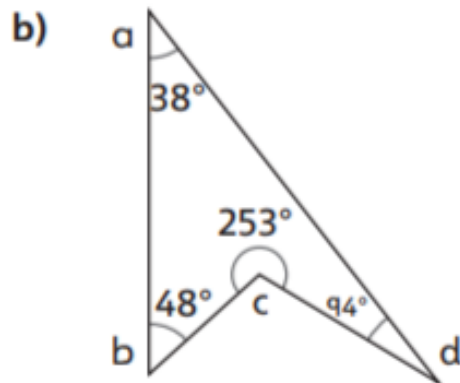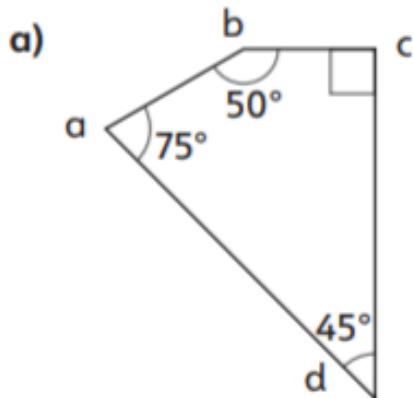
3 Draw lines to split each shape into triangles. Write the angle total for each shape.
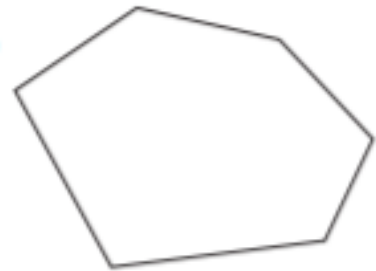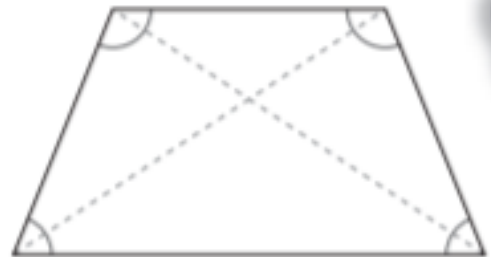
a)

angle total = ☐

b)

angle total = ☐

c)

angle total = ☐

4 Emma says, 'I split this shape into four triangles. There are 180° in each triangle and 180 × 4 = 720°, so this quadrilateral must have internal angles that add up to 720°.'
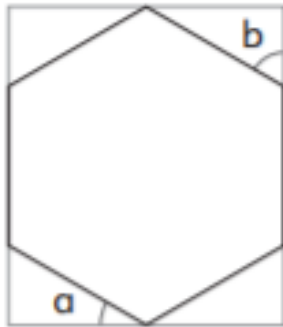
Can you explain Emma's mistake?

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_____

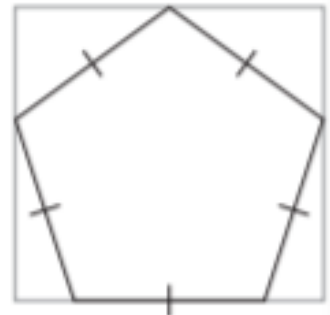**5** Calculate the interior angles of a regular decagon.

angle total = ☐   each interior angle = ☐

25

6 **a)** The regular hexagon has been drawn inside a rectangle.

Calculate angles a and b.

b) How many angles can you calculate in this diagram of a pentagon drawn inside a rectangle? Write the angle measurements on the shape.

Reflect

Create a missing angle problem involving a quadrilateral.
The missing angle should be 40°.