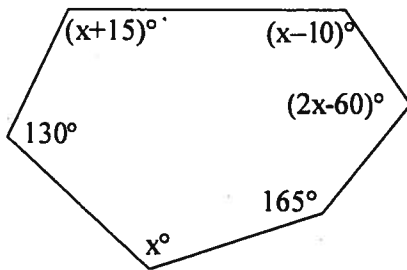


3. a) Find the value of x in the hexagon below by solving the appropriate equation.



$$\begin{aligned} x + 130 + x + 15 + x - 10 + 2x - 60 + 165 &= 180(6-2) \\ 5x + 240 &= 720 \\ 5x &= 480 \\ x &= 96^\circ \end{aligned}$$

- b) What is the measure of each angle in a regular hexagon? Explain how you obtained your answer.

interior: $x = \frac{180(6-2)}{6}$ (ASPT)

$$x = 120^\circ$$

- c) What is the measure of each exterior angle of a regular hexagon?

$$\begin{aligned} x &= 180^\circ - 120^\circ \text{ (SPT)} & \text{or} & & x &= \frac{360^\circ}{6} \\ &= 60^\circ & & & &= 60^\circ \text{ (EAPT)} \end{aligned}$$

4. a) If the midpoints of a square are joined, a square is formed.
 b) If the midpoints of a rectangle are joined, a parallelogram is formed.
 c) If the midpoints of a kite are joined, a rectangle is formed.

5. Circle the correct answer.

a) diagonals of a parallelogram
 have the same length bisect each other intersect at 90°

b) diagonals of a rhombus
 have the same length bisect each other intersect at 90°

6. Each exterior angle of a regular polygon is 12° . Determine the number of sides.

$$\frac{360^\circ}{n} = 12^\circ$$

$$12n = 360^\circ$$

$$n = 30$$

\therefore there are 30 sides.