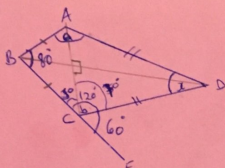


Q1)



Calculate angle x .

Angle at a point adds up to 360°

$\angle BCD$ and $\angle DCE = 180^\circ$

$$b + 60 = 180$$

$$\therefore b = 180^\circ - 60$$

$$b = 120^\circ$$

$$\text{Let } \angle ACD = x$$

$$\angle ACB = 120 - x$$

$$\angle BCA = \angle BAC = 120 - x$$

Sum of angles in triangle = 180°

$$2(120 - x) + 80 = 180$$

$$240 - 2x + 80 = 180$$

$$-2x = 180 - 320 - 240$$

$$-2x = -140$$

$$x = 70^\circ$$

$$\angle ACD = x$$

$$= 70^\circ$$

$$\angle ACB = 120 - 70 = 50^\circ$$

$$\angle DCA = \angle CAD = x = 70^\circ$$

Angles of triangle = 180°

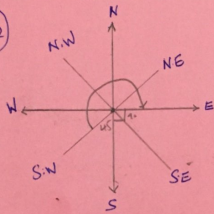
$$\therefore x + 70 + 70 = 180$$

$$x = 180 - 140$$

$$x = 40^\circ$$

Hence Size of angle $x = 40^\circ$

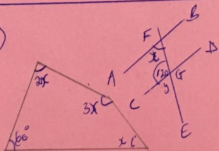
Q2)



$$90 + 45 = 135^\circ$$

$$\text{Angle of turn} = 360^\circ - (135^\circ) = 225^\circ$$

Q3)



Show AB is not parallel to CD.

$$60 + 2x + 3x + x = 360$$

$$60 + 6x = 360$$

$$6x = 300$$

$$x = 50^\circ$$

If for line AB to be parallel to line CD, $\angle AFE$ must be equal to $\angle CGE$

$$\angle AFE = x = 50^\circ$$

$$\angle CGE = 180 - 120 = 60^\circ$$

$\angle AFE \neq \angle CGE$ Hence, line AB is not parallel to CD.

Q4)

$$F = 1.8C + 32$$

Fahrenheit = Celsius

$$F = C \left(\frac{9}{5} \right) + 32 \quad C = (F - 32) \frac{5}{9}$$

$$C \left(\frac{9}{5} \right) + 32 = (F - 32) \frac{5}{9}$$

$$\text{Assume } C = F = x$$

$$\frac{9}{5}x + 32 = x \left(\frac{5}{9} \right) + 32$$

$$\frac{9}{5}x + 32 = \frac{5}{9}x - \frac{160}{9}$$

$$\frac{1}{5}x - \frac{5}{9}x = \frac{-160 - 32}{9}$$

$$\frac{86}{45}x = \frac{-448}{9}$$

$$x = -40$$

$$F = C = x = -40^\circ \quad \square$$