

$$23) \quad 6x + 80^\circ + 123^\circ + 85^\circ = 360^\circ$$

$$= 6x + 288^\circ = 360^\circ$$

$$6x = 360^\circ - 288 = 72^\circ$$

$$6x = 72^\circ$$

$$x = \frac{72^\circ}{6} = 12^\circ$$

$$AOB^\circ = 60^\circ$$

$$BOC = 12^\circ$$

$$24) \quad 2y + 2y^\circ + 2\frac{1}{2}y^\circ + 3\frac{1}{2}y^\circ = 360^\circ$$

$$4y^\circ + \frac{5y^\circ + 7}{2} = 360^\circ$$

$$4y = 354^\circ$$

$$4y + \frac{12}{2} = 360^\circ$$

$$4y = \frac{354^\circ}{4} =$$

$$4y + 6 = 360^\circ$$

$$y = 360^\circ$$

$$AOB = 126^\circ$$

$$BOC = 72^\circ$$

$$COD = 72^\circ$$

$$DOA = 90^\circ$$

$$\begin{aligned} \text{as } \angle x &= 45 + 90^\circ \\ &= 135^\circ \end{aligned}$$

$$x = 180^\circ - 135^\circ$$

$$x = 45^\circ$$

$$2) \quad x + 5x + 6x = 180^\circ \quad \Rightarrow \quad 12x = 180^\circ$$

$$x = \frac{180^\circ}{12} = 15^\circ$$

$$\text{But } ax = 3a$$

$$3a = 15 \quad \Rightarrow \quad a = \frac{15^\circ}{3} = 5^\circ$$

$$a = 5^\circ$$