

① $f(x) = x^2 + 3x$
 $f(-5) = (-5)^2 + 3(-5)$
 $= 25 - 15$
 $= \underline{\underline{10}}$

②

198	216	218	230	232	247	248	250	265	267
		↑		↑			↑		
		Q ₁		Q ₂			Q ₃		

SIQR = $\frac{Q_3 - Q_1}{2} = \frac{250 - 218}{2} = \frac{32}{2} = \underline{\underline{16}}$

③ $1\frac{5}{6} \div \frac{3}{4} = \frac{11}{6} \div \frac{3}{4} = \frac{11}{6} \times \frac{4}{3} = \frac{44}{18} = \frac{22}{9} = \underline{\underline{2\frac{4}{9}}}$

④ $(2x+3)(x^2-4x+1)$
 $= 2x(x^2-4x+1) + 3(x^2-4x+1)$
 $= 2x^3 - 8x^2 + 2x + 3x^2 - 12x + 3$
 $= \underline{\underline{2x^3 - 5x^2 - 10x + 3}}$

⑤ B(0,6,6) , c(3,3,9)

⑥ A(-1,6) B(3,-2)

$$m_{AB} = \frac{-2-6}{3-(-1)} = \frac{-8}{4} = -2$$

$\begin{matrix} a & b \\ (-1, & 6) \end{matrix}$

$\begin{matrix} x & y \\ (-1, & 6) \end{matrix}$

$$y = -2x + c$$

$$6 = -2(-1) + c$$

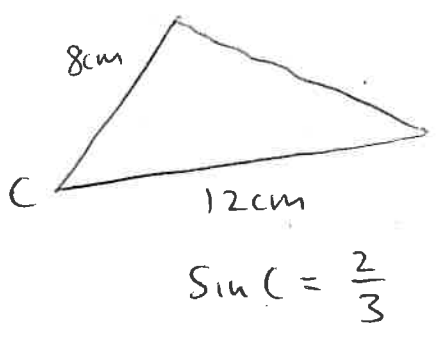
$$6 = 2 + c$$

$$c = 4$$

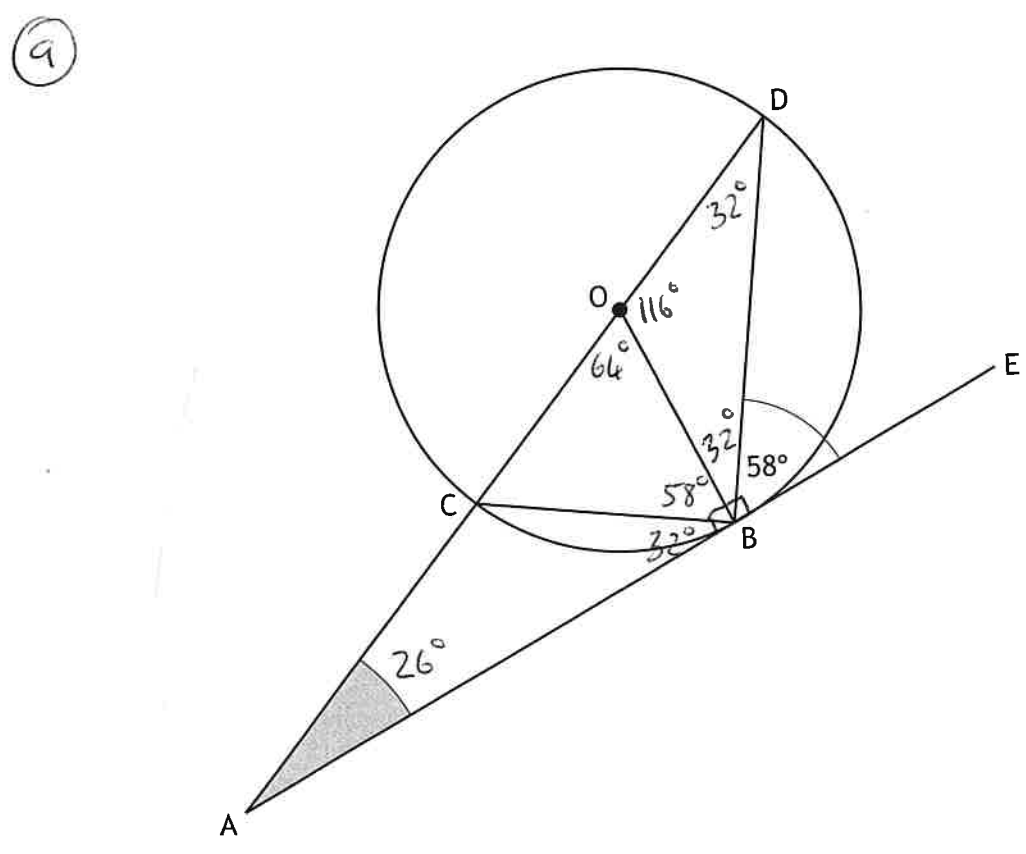
$$y = -2x + 4$$

or $y - b = m(x - a)$
 $y - 6 = -2(x + 1)$
 $y - 6 = -2x - 2$
 $y = -2x + 4$

⑦ Area = $\frac{1}{2} ab \sin C$
 $= \frac{1}{2} \times 8 \times 12 \times \frac{2}{3}$
 $= 4 \times 8$
 $= \underline{\underline{32 \text{ cm}^2}}$



⑧ $19 + x > 15 + 3(x - 2)$
 $19 + x > 15 + 3x - 6$
 $19 + x > 9 + 3x$
 $10 > 2x$
 $5 > x$
 $\underline{\underline{x < 5}}$



$$\begin{array}{r} 180 \\ - 64 \\ \hline 116 \\ \underline{58} \\ 2 \overline{) 116} \end{array}$$

$\angle CAB = \underline{\underline{26^\circ}}$

Sub $x = 2.5$ into (2)

$$x + 3y = 19$$

$$2.5 + 3y = 19$$
$$\begin{array}{r} -2.5 \quad -2.5 \\ \hline \end{array}$$

$$3y = 16.5$$

$$\underline{\underline{y = 5.5}}$$

$$\underline{\underline{P(2.5, 5.5)}}$$

$$3 \overline{) 16.5} \begin{array}{r} 5.5 \\ \hline \end{array}$$

(14) a) $a = 5$

b) $y = (x + 5)^2 + b$ $\begin{array}{c} x \ y \\ (-3, 8) \end{array}$

$$8 = (-3 + 5)^2 + b$$

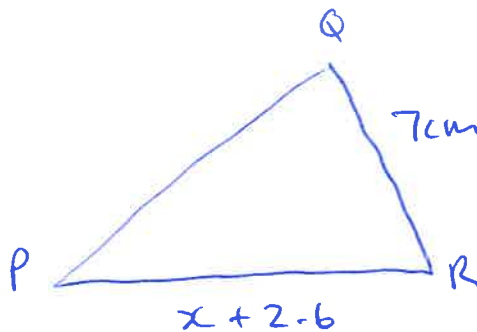
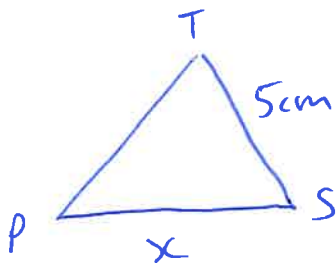
$$8 = 2^2 + b$$

$$8 = 4 + b$$

$$\begin{array}{r} -4 \quad -4 \\ \hline \end{array}$$

$$\underline{\underline{b = 4}}$$

(15)



$$\frac{7}{5} = \frac{x + 2.6}{x}$$

$$7x = 5(x + 2.6)$$

$$7x = 5x + 13$$

$$2x = 13$$

$$\underline{\underline{x = 6.5 \text{ cm}}}$$

or Using Scale factor

$$S.F(\text{reduction}) = \frac{5}{7}$$

$$x = \frac{5}{7}(x + 2.6)$$

$$7x = 5(x + 2.6)$$

$$7x = 5x + 13$$

$$2x = 13$$

$$\underline{\underline{x = 6.5 \text{ cm}}}$$