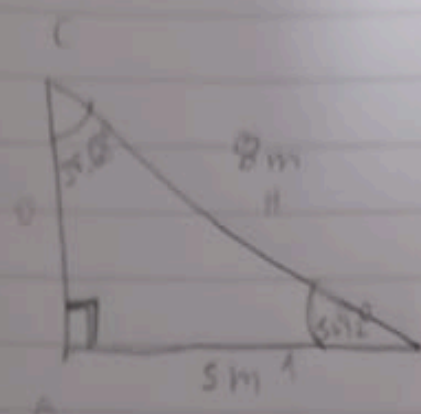


7]



$$(i) \cos x = \frac{5}{8}$$

$$x = \cos^{-1}\left(\frac{5}{8}\right)$$

$$x = 51.32^\circ$$

$$ii) x = 180 - 90 - 51.32$$

$$x = 38.68^\circ$$

Angle C is  $38.68^\circ$

$$iii) \sin 38.68 = \frac{x}{8}$$

$$8 \sin 38.68 = x$$

$$x = 5m$$

$$\begin{array}{ll}
 1) \text{ i) } x^2 - 8x + 15 = 0 & (x-3)(x-5) = 0 \\
 \text{ii) } x^2 - 225 = 0 & (x-15)(x+15) = 0 \\
 \text{iii) } x^2 + 11x + 30 = 0 & (x+5)(x+6) = 0 \\
 \text{iv) } x^2 - 6x + 8 = 0 & (x-2)(x-4) = 0 \\
 \text{v) } 2x^2 + 9x + 7 = 0 & (2x+7)(x+1) = 0
 \end{array}$$

$$2) \quad x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$12x^2 + 5x = 7$$

$$12x^2 + 5x - 7 = 0$$

$$x = \frac{-5 \pm 18.84}{24}$$

$$\boxed{x = 0.58}$$

$$x = \frac{-5 \pm \sqrt{(5)^2 - 4(12)(-7)}}{2(12)}$$

$$x = \frac{-5 \pm \sqrt{25 + 336}}{24}$$

$$x = \frac{-5 \pm \sqrt{361}}{24}$$

$$x = \frac{-5 \pm 18.84}{24}$$

$$x = \frac{-5 - 18.84}{24}$$

$$\boxed{x = -0.99}$$

$$3) \text{ i) } 5x + 2y = 22$$

$$\text{ii) } 4x + 3y = 19$$

$$15x + 6y = 66 \text{ (iii)}$$

$$8x + 6y = 38 \text{ (iv)}$$

$$23x = 104$$

$$x = \frac{104}{23}$$

$$\boxed{x = 4.52}$$

$$5(4.52) + 2y = 22$$

$$22.6 + 2y = 22$$

$$2y = 22 - 22.6$$

$$y = \frac{0.6}{2}$$

$$4) i) x^8 \times x \times x^9 = x^{18}$$

$$ii) (2x^3)^3 = (2x)(x)(x)^3$$

$$iii) \frac{x^{12} \times x^8}{x} = \frac{x^{20}}{x} = x^{19}$$

$$iv) 5x^2 \times 3x^4 = 15x^6$$

$$v) \frac{10x^5}{2x^2} = 5x^3$$

$$5) 2(x^2+y^2) + x^2(x-y) + 3xy - x^3 =$$

$$= 2x^2 + 2y^2 + x^3 - xy^2 + 3xy - x^3$$

$$= \boxed{2x^2 + 2y^2 - xy^2 + 3xy}$$

$$6) i) 5(2x+1) = 4(3x+2)$$

$$10x+5 = 12x+8$$

$$10x-12x = 8-10$$

$$-2x = -2$$

$$\boxed{x=1}$$

$$ii) 12x+5 = 4x-1$$

$$12x-4x = -1-5$$

$$8x = -6$$

$$x = \frac{-6}{8}$$

$$\boxed{x = \frac{-3}{4}}$$

$$iii) \frac{(4x-1)}{3} = \frac{(5x+2)}{2}$$

$$2(4x-1) = 3(5x+2)$$

$$8x-2 = 15x+6$$

$$8x-15x = 6+2$$

$$-7x = 8$$

$$\boxed{x = \frac{8}{-7}}$$