

Abdulazim Mohammadin
Student Number (2008236)

$$(4) -b \pm \sqrt{b^2 - 4ac} \\ 2a$$

$$14x^2 + 3x = 11$$

$$14x^2 + 3x - 11 = 0$$

$$x = \frac{-3 \pm \sqrt{3^2 - 4(14)(-11)}}{2(14)}$$

$$x = \frac{-3 \pm \sqrt{9 + 616}}{28}$$

$$x = \frac{-3 \pm \sqrt{625}}{28}$$

$$\therefore x = \frac{-3 \pm 25}{28}$$

$$x = \frac{-3 + 25}{28} \quad \therefore x = 0,39$$

$$x = \frac{-3 - 25}{28} \quad \therefore x = -0,5$$

(5) Simultaneous equations:

$$2 - 5x + 3y = 39 \quad \text{--- (1)}$$

$$3 - 8x - 2y = 42 \quad \text{--- (2)}$$

$$10x + 6y = 78 \quad \text{--- (3)}$$

$$24x + 8y = 126 \quad \text{--- (4)}$$

$$34x = 204$$

$$\therefore x = \frac{204}{34} \quad \therefore x = 6$$

$$(6) 5(6) + 3y = 39$$

$$30 + 3y = 39 \quad \therefore 3y = 39 - 30$$

$$\therefore 3y = 9$$

$$y = \frac{9}{3}$$

$$y = 3$$

03 / page (2)
10 / 2020

$$(6) 5(2x^2 - x^2) - x^2(x - y) - 2x^2 - x^4$$

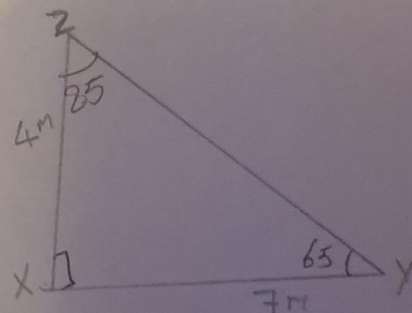
$$10x^2 - 5x^2 - x^3 + xy^2 - 2x^2 - x^4$$

$$10x^2 - 5x^2 - x^3 + xy^2 - 2x^2 - x^4$$

(7) (i) Angle Y

(ii) Angle Z

(iii) Length YZ



$$\tan Y = \frac{4}{7}$$

$$x^2 = 7^2 + 4^2$$

$$x^2 = 49 + 16$$

$$x^2 = 65$$

$$\text{Angle Z} = 25$$

$$(iii) YZ = \frac{YX}{\sin Z}$$

$$YZ = \frac{7}{\sin 25} \quad Y = 10$$

$$18 \sqrt{x} = 3(x)^2 \quad \therefore x = 10$$

$$(i) 1 = 0$$

Abdulazim Mohammedain 03/10
Student Number (2008236)

2020

Page

(1)

$$\text{ii) } x^4 \times x^6 \times x = x^{4+6+1} = x^{11}$$

$$\text{iii) } 2x^2 \times 3x^3 \times 2x = 2^2 \times 3 \times 2 \times x^{2+3+1} = 12x^6$$

$$\text{iii) } \frac{x^4 \times x^3 \times 2x}{x^9} = \frac{x^{4+3+1}}{x^9} = \frac{x^8}{x^9} = \frac{1}{x}$$

$$\text{iv) } (3x^2)^3 = 3^3 \times (x^2)^3 = 27x^6$$

$$\text{v) } \sqrt{x} \times \sqrt{x} = (x)^2 = x$$

2, Linear equations

$$\text{i) } 15x - 2 = 12x + 9$$

$$15x - 12x = 9 + 2$$

$$3x = 11$$

$$x = \frac{11}{3}$$

$$\text{ii) } 3(7x - 1) = 6(x + 3)$$

$$21x - 3 = 6x + 18$$

$$21x - 6x = 18 + 3$$

$$15x = 21 \Rightarrow x = \frac{21}{15} = \frac{7}{5}$$

$$\text{iii) } \frac{5x+3}{4} = \frac{2x-1}{9}$$

$$9(5x+3) = 4(2x-1)$$

$$45x + 27 = 8x - 4$$

$$45x - 8x = -4 - 27$$

$$37x = -31 \Rightarrow x = \frac{-31}{37} = -0.837$$

$$x = -0.83$$

(3)

$$\text{i) } x^2 + 10x + 24 = 0$$

$$(x+7)(x+3) = 0$$

$$\Rightarrow x = -7 \quad x = -3$$

$$\text{ii) } x^2 - 3x + 2 = 0$$

$$(x-1)(x-2) = 0$$

$$x-1=0 \quad x-2=0$$

$$\Rightarrow x = 1 \quad x = 2$$

$$\text{iii) } x^2 + 12x + 20 = 0$$

$$(x+10)(x+2) = 0$$

$$x+10=0 \quad x+2=0$$

$$x = -10 \quad x = -2$$

$$\text{iv) } x^2 - 64 = 0 \quad 8 \times 8 = 64$$

$$(x+8)(x-8) \Rightarrow x = -8 \quad x = 8$$

$$\text{v) } 2x^2 + 9x + 10 = 0$$

$$(2x+5)(x+2) = 0$$

$$2(x+\frac{5}{2}) \quad 5(x+2)$$

$$2x+5=0 \Rightarrow x+2=0$$

$$\frac{1}{2}x = -\frac{5}{2} \Rightarrow x = -\frac{5}{2} \Rightarrow x = -2.5$$