

Abdulazim Mohammadin

Student Number (2008236)

Page (2)

(4) Simplify the following as far as possible-

(i) $x^8 \times x \times x \times x^9$

$$a^m \times a^n = a^{m+n} \quad x^{8+1+9}$$

$$= x^8 \times x^1 \times x^9 = x^{18}$$

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

$$2^3 \times x^3 \times x^3 \times x^3 = 8x^9$$

(iii) $\frac{x^{12} \times x^8}{x^{20+1}}$

$$\frac{x^{12+8}}{x^{20+1}} = \frac{x^{20}}{x^{21}} = \frac{1}{x}$$

(iv) $5x^2 \times 3x^4$

$$5 \times 5 \times 3 \times 3 \times x^2 \times x^4 = 75x^6$$

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

$$10 \times 10 \times 10 \times 10 \times 10 = 125x^3$$

$x = 31,25$

27/01/2020

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

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

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

8. Solve

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

$$6x+3 = 12x+8$$

$$-6x = 5 \Rightarrow x = -\frac{5}{6}$$

$$-2x = \frac{3}{-2} \Rightarrow x = \frac{3}{2}$$

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

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

$$8x = -6$$

$$x = -\frac{6}{8} = -\frac{3}{4}$$

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

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

$$8x-4 = 15x+6$$

$$8x-15x = 6+4$$

$$-7x = 10 \Rightarrow x = -\frac{10}{7}$$