

Time: 11:55

1/11/21

Module code: ACHA3000 / Student no. 2006983

Mathematics and Science (Test 1).

P1 of 4
1)

i. $x^6 \times x^8 \times x^2 \times x = x^{17}$

ii. $(2x^2)^4 \times 3x^3$

$$16x^8 \times 3x^3$$

$$16 \times 3 = 48$$

$$48x^{8+3} = 48x^{11}$$

iii. $\frac{x^2 \times x^{10} \times x}{x^3} = \frac{x^{13}}{x^3} = x^{10}$

iv. $2\sqrt{x} \times 3\sqrt{x} = 2 \times 3 = 6x$

v. $1 = x$

2)

i. $7x - 1 = 5x + 4$

$$7x - 1 + 1 = 5x + 4 + 1$$

$$7x = 5x + 5$$

$$\downarrow 7x - 5x = 5x + 5 - 5x$$

$$2x = 5$$

$$x = 5/2$$

$$x = 2.5$$

ii. ~~$x^2 - 7x + 10$~~
 $10(3x + 2) = 7(-2x - 1)$

$$30x + 20 = -14x - 7$$

$$30x + 20 - 20 = -14x - 7 - 20$$

$$\downarrow 30x = -14x - 27$$

$$30x + 14x = -14x - 27 - 14x$$

$$44x = -27$$

$$x = -27/44$$