

IOHM2 HOMEWORK

$$1) 3x^3 \times 2x^2 = 6x^5$$

$$2) \frac{8x^8}{2x^2} = 4x^6$$

$$3) (4p^4)^3 = 64p^{12}$$

$$4) 8^1 = 8$$

$$5) 7^0 = 1$$

$$6) 3^{-2} = \frac{1}{9}$$

$$7) 25^{\frac{1}{2}} = 5$$

$$8) 8^{\frac{2}{3}} = 4$$

9) Express as a power of 5

$$\frac{5^3 \times 5^7}{5^2} = \frac{5^{10}}{5^2} = 5^8$$

10) Factorise

$$x^2 + 7x + 6 = (x+1)(x+6)$$

$$11) x^2 - 7x - 8 = (x+1)(x-8)$$

$$12) x^2 - 9 = (x+3)(x-3)$$

13) Solve

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

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

$$\Rightarrow x=1 \text{ or } x=2$$

14) Complete the square. Write

$$x^2 + 8x + 10$$

in the form

$$(x+a)^2 + b$$

$$(x+4)^2 + 10 - 16 = (x+4)^2 - 6$$

15) Complete the square

$$x^2 - 4x + 5$$

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

16) Solve

$$2x + 5 = 17$$

$$2x = 17 - 5$$

$$2x = 12$$

$$x = \frac{12}{2}$$

$$x = 6$$

17) Solve

$$5x - 1 = 2x + 8$$

$$5x - 2x = 8 + 1$$

$$3x = 9$$

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

$$x = 3$$

18) Expand

$$3(2x - 5)$$

$$= 6x - 15$$

19) $2\frac{1}{4} + 1\frac{2}{3}$

$$= 3\frac{3+8}{12}$$

$$= 3\frac{11}{12}$$

20) $2\frac{1}{2} \times 1\frac{2}{5}$

$$= \frac{5}{2} \times \frac{7}{5}$$

$$= \frac{7}{2}$$

$$= 3\frac{1}{2}$$
