

QUESTIONS 1

$$1) x^6 \times x^8 \times x^2 \times x$$
$$= x^{17}$$

$$2) (2x^2)^4 \times 3x^3$$
$$16x^8 \times 3x^3$$
$$= ~~16x~~ 48x^{11}$$

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

$$4) 2\sqrt{x} \times 3\sqrt{x}$$
$$6\sqrt{x}$$
$$= 6x$$

$$5) 1$$
$$= x$$

QUESTION 2

$$1) \quad 7x - 1 = 5x + 4$$

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

$$12x = 3$$

$$x = 0.25$$

$$2) \quad 10(3x + 2) = 7(-2x - 1)$$

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

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

$$16x = 27$$

$$x = 1.7$$

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

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

$$8x + 4 = 3x - 3$$

$$3x - 8x = 4 + 3$$

$$-5x = 7$$

$$x = -1.4$$

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

$$2x + 4 = 2x + 15$$

$$2x - 2x = 4 - 15$$

$$x^0 = -11$$

$$x = -11$$

QUESTION 3

1) $x^2 + 9x + 14 = 0$

$$x^2 + 7x + 2x + 14 = 0$$

$$x(x+7) + 2(x+7) = 0$$

$$(x+7)(x+2) = 0$$

$$x+7=0 \quad x+2=0$$

$$x=-7 \quad x=-2$$

2) $x^2 - 7x + 10 = 0$

$$x^2 - 2x - 5x + 10 = 0$$

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

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

$$x-2=0 \quad x-5=0$$

$$x=2 \quad x=5$$

3) $x^2 + 8x - 20 = 0$

$$x^2 + 10x - 2x - 20 = 0$$

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

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

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

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

$$4) x^2 - 49 = 0$$

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

$$x-7=0 \quad x+7=0$$

$$x=7$$

$$x=-7$$

$$5) 2x^2 - 3x - 20 = 0$$

$$2x^2 + 5x - 8x - 20 = 0$$

$$x(2x+5) - 4(2x+5) = 0$$

$$(2x+5)(x-4) = 0$$

$$2x+5=0 \quad x-4=0$$

$$x = -\frac{5}{2}$$

$$x=4$$

QUESTION 4

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

$$17x^2 = -5x + 14$$

$$x = \frac{-5 \pm \sqrt{5^2 - 4 \times 17 \times (-14)}}{2 \times 17}$$

$$x = \frac{-5 \pm \sqrt{25 + 952}}{34}$$

$$x = \frac{-5 \pm \sqrt{977}}{34}$$

?

QUESTION 5

$$6x + 5y = 35$$

$$7x - 4y = 31$$

$$6x + 5y = 35$$

$$x = \frac{31}{7} + \frac{4}{7}y$$

$$6\left(\frac{31}{7} + \frac{4}{7}y\right) + 5y = 35$$

$$y = 1$$

$$x = \frac{31}{7} + \frac{4}{7} \times 1$$

$$x = 5$$

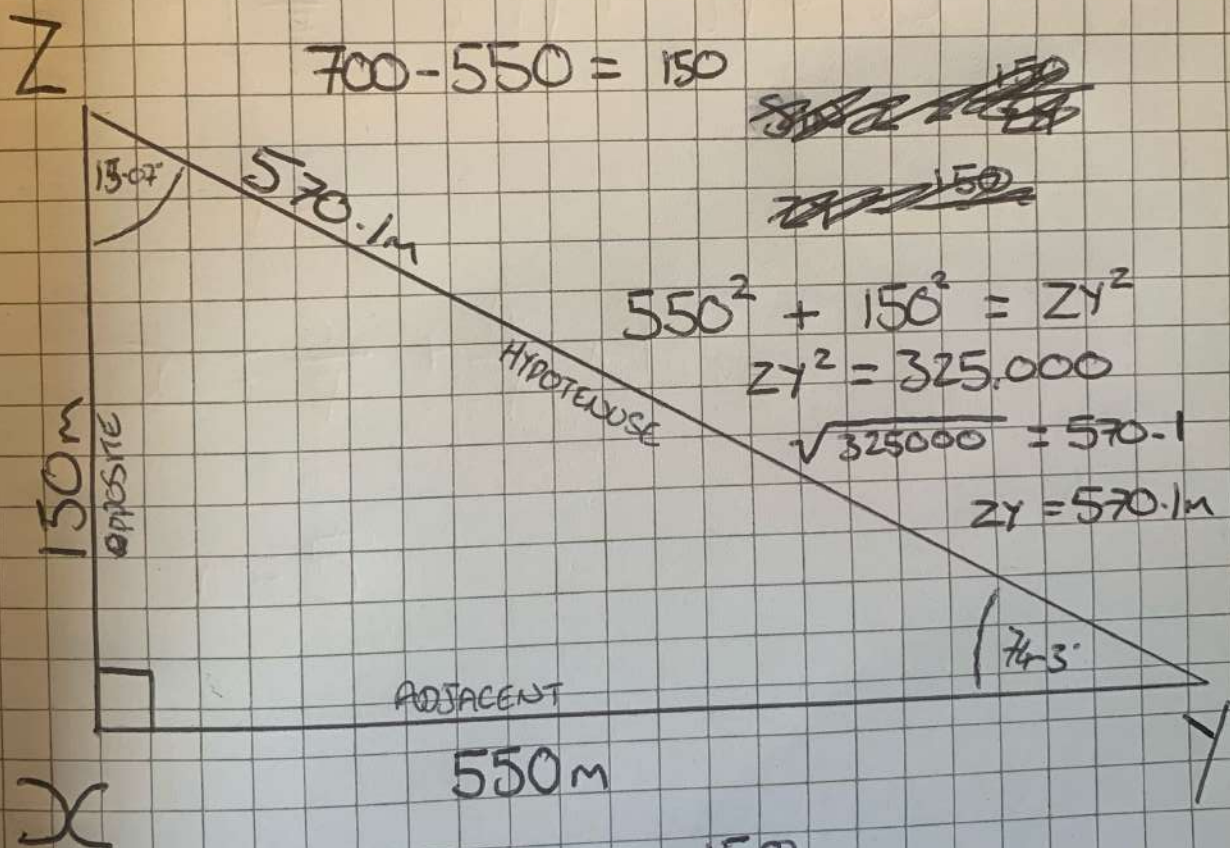
QUESTION 6

$$10p^3q^2 - 5p^2q + 15p^4q$$

$$2x^2y - 4xy^2$$

QUESTION 7

~~700 - 550 = 150~~
~~550~~



ANSWERS

- 1) 150m
- 2) 74.3°

$$\sin Z = \frac{150}{570.1}$$

$$\sin Z = 0.26$$

$$Z = \sin^{-1}(0.26)$$

$$Z = 15.07^\circ$$

$$\begin{array}{r} 90 \\ + 15.07 \\ \hline 105.07 \end{array}$$

$$\begin{array}{r} 180 \\ - 105.07 \\ \hline 74.3 \end{array}$$