

- i. x^{17} $6+8+2+1 = 17$
 ii. $(2x^2)^4 \times 3x^3$ $16x^8 \times 3x^3 = 48x^{11}$
 iii. $2+10+1 = 13$ $x^{13} - x^3 = x^{10}$
 iv. ~~$16x^8 \times 3x^3 = 48x^{11}$~~ $2\sqrt{x} \times 3\sqrt{x} = 2 \times 3 = 6$ $2x \times 3x = 6x$
 v. $\boxed{2x}$

2.

- i. $7x - 1 = 5x + 4$
 $7x = 5x + 5$
 $2x = 5$ $5 \div 2 = 2.5$ $\boxed{x = 2.5}$
 ii. $10(3x+2) = 7(-2x-1)$
 $30x + 20 = -14x - 7$
 $30x = -14x - 27$
 $44x = -27$ $\boxed{x = -0.61}$

iii.

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

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

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

$$-5x - 3 = 4$$

$$-5x = 7$$

$$\boxed{x = -1.4}$$

- iv. $(x+2)^2 = (x+3)(x+5)$
 ~~$(x+2)^2$~~ $\Rightarrow$
 $x^2 + 4x + 4 = (x+3)(x+5)$
 $x^2 + 4x + 4 = x^2 + 8x + 15$
 $4x + 4 = 8x + 15$
 $4x = 11$
 $\boxed{x = 2.75}$

3

i. $(x+2)(x+7) = 0$
 $\boxed{x = -2 \quad x = -7}$

ii. $(x-5)(x-2) = 0$
 $\boxed{x = 5 \quad x = 2}$

iii. $(x-2)(x+10) = 0$
 $\boxed{x = 2 \quad x = -10}$

iv. $x^2 - 49 = 0$
 $(x+7)(x-7) = 0$
 $\boxed{x = -7 \quad x = 7}$

v.

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

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

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

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

$$x = 0.77, -1.06$$

$$5. 6x + 5y = 35$$

$$7x - 4y = 31$$

$$x = \frac{35}{6} - \frac{5y}{6}$$

$$7x - 4y = 31$$

$$6. 10p^3q^2 - 5p^2q + 15p^4q$$

$$10p^3 - 5p^2 = 5p + 15p^4 = 20p^5$$

$$q^2 - q = -q^2 + q = q^2$$

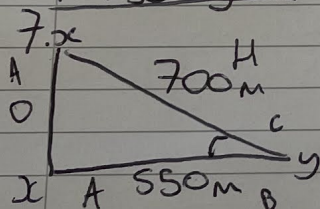
$$20p^5 + q^2$$

$$ii. 20x^2y - 4xy^4$$

$$2x^2 - 4x = -2x^2$$

$$y - y^4 = -y^4$$

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



$$550^2 + 7$$

$$700^2 - 550^2 = 150$$

$$\sqrt{700^2 - 550^2} = \sqrt{301800} = \sqrt{87500}$$

$$\sqrt{187500} = 433m$$

$$ii. \cos 700 \div 550 = y = 38.21$$