

Homework Due 4th Sept

- 1) a) $m=3$ y -intercept = 4
b) $m=-7$ y -intercept = 3
c) $m=-0.5$ y -intercept = 0

2)
$$\begin{array}{r} \textcircled{1} \quad 3x + y = 11 \\ \textcircled{2} \quad 2x + y = 8 \\ \hline \end{array}$$

$x = 3$
sub into $\textcircled{2}$

$$\begin{array}{r} 2x + y = 8 \\ 6 + y = 8 \\ y = 2 \end{array}$$

$$\begin{array}{r} x = 3 \\ \underline{y = 2} \end{array}$$

3)
$$\begin{array}{r} \textcircled{1} \quad 4x - 3y = -5 \\ \textcircled{2} \quad 2x - 2y = -6 \quad (\times 2) \end{array}$$

$$\begin{array}{r} 4x - 3y = -5 \\ \underline{4x - 4y = -12} \end{array}$$

$$y = 7$$

sub into $\textcircled{2}$

$$\begin{array}{r} 2x - 2y = -6 \\ 2x - 14 = -6 \\ \quad \quad \quad +14 \quad \quad \quad +14 \\ \hline 2x = 8 \end{array}$$

$$x = 4$$

$$\begin{array}{r} x = 4 \\ \underline{y = 7} \end{array}$$

$$4a) \quad y = 2w + 5$$

$$\begin{array}{r} y - 5 = 2w \\ \div 2 \quad \quad \div 2 \end{array}$$

$$\frac{y-5}{2} = w$$

$$w = \frac{y-5}{2}$$

$$b) \quad 3\sqrt{w} - \pi = t$$

$$\begin{array}{r} + \pi \quad + \pi \\ 3\sqrt{w} = t + \pi \\ \div 3 \quad \quad \div 3 \end{array}$$

$$\sqrt{w} = \frac{t + \pi}{3}$$

square

$$w = \left(\frac{t + \pi}{3} \right)^2$$

$$c) \quad 4wt - 3w = 1$$

$$w(4t - 3) = 1$$

$$w = \frac{1}{4t - 3}$$

$$5) \quad a) \quad y = x^2 + 8x + 12$$

$$y = (x + 6)(x + 2)$$

$$x = -6 \quad \text{or} \quad x = -2$$

$$\text{Roots } (-6, 0) \quad (-2, 0)$$

$$\text{Axis of S. } x = -4$$

$$\text{TP} \quad y = (-4)^2 + 8(-4) + 12$$

$$y = 16 - 32 + 12$$

$$y = -4$$

$$(-4, -4)$$

$$y \quad (0, 12)$$

$$5b) \quad y = x^2 + 2x - 15$$

$$y = (x+5)(x-3)$$

$$\text{Roots } (-5, 0) \quad (3, 0)$$

$$\text{Axis of S } x = -1$$

$$\text{T.P. } y = (-1)^2 + 2(-1) - 15$$

$$y = 1 - 2 - 15$$

$$y = -16$$

$$(-1, -16)$$

$$y \quad (0, -15)$$

$$6) \quad (3, 0) \quad (1, 0)$$

$$y = (x-3)(x-1)$$

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

$$y = x^2 - 4x + 3$$

$$b) \quad (6, 0) \quad (-5, 0)$$

$$y = (x-6)(x+5)$$

$$y = x^2 - 6x + 5x - 30$$

$$y = x^2 - x - 30$$

$$7a) \quad y = (x-6)^2 + 9$$

$$y = x^2 - 12x + 45$$

$$b) \quad y = (x+9)^2 - 5$$

$$y = x^2 + 18x + 76$$

$$d) \quad y = (x+4)^2 + 0.5$$

$$y = x^2 + 8x + 16.5$$

