

$$\left. \begin{array}{l} A(x_1, y_1) \\ B(x_2, y_2) \\ C(x_3, y_3) \end{array} \right\} \text{Midpoint} \left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2} \right)$$

$$\left(\frac{3-6}{2}, \frac{6+0}{2} \right)$$

$$\left(\frac{-3}{2}, \frac{6}{2} \right)$$

c) Equation of line

① Slope $\frac{y_2-y_1}{x_2-x_1}$

$$\left(\frac{-3}{2}, 3 \right)$$

$$(-1.5, 3)$$

$$m = \frac{0-6}{-6-3}$$

$$m = \frac{-6}{-9} = \frac{2}{3}$$

② Equ of line $y-y_1 = m(x-x_1)$ $A = (3, 6)$ $m = \frac{2}{3}$

$$y-6 = \frac{2}{3}(x-3)$$

$$3y-18 = 2x-6$$

$$ax+bx+c=0$$

$$\begin{array}{l|l} +18 & 3y = 2x + 12 \\ -3y & 0 = 2x - 3y + 12 \end{array} \quad \begin{array}{l} +18 \\ = 3y \end{array}$$

$$2x-3y+12=0$$

$$3y = 2x + 12$$

$$y = \frac{2x+12}{3}$$

$$y = \frac{2x}{3} + 4$$

Q5 a) $(3, -5)$ on line $5x+3y+6=0$

$x=3$
 $y=-5$ } sub in to
x and y
in the
given line

$$5(3)+3(-5)+6=0$$

$$15-15+6=0$$

$+6 \neq 0 \therefore$ not on the line

b) $3x+2y=7$
 $y = -2x+5$

Substitution

$$3x+2(-2x+5)=7$$

To find y.

$$x=3 \Rightarrow y = -2x+5$$

$$y = -2(3)+5$$

$$y = -6+5$$

Substitution

$$3x + 2(-2x + 5) = 7$$

$$3x - 4x + 10 = 7$$

$$\begin{array}{r|l} -10 & -1x + 10 = 7 \\ \div -1 & -1x = -3 \\ & x = 3 \end{array}$$

$$y = -6 + 5$$

$$y = -1$$

$$(3, -1)$$

Elimination

$$\begin{array}{r} 3x + 2y = 7 \\ 2x + y = 5 \quad (-2) \\ \hline \end{array} \Rightarrow \begin{array}{r} 3x + 2y = 7 \\ -4x - 2y = -10 \\ \hline -1x = -3 \\ x = 3 \end{array}$$

$$3x + 2y = 7 \quad x = 3$$

$$3(3) + 2y = 7$$

$$\begin{array}{r|l} -9 & 9 + 2y = 7 \\ \div 2 & 2y = -2 \\ & y = -1 \end{array}$$

$$(3, -1)$$

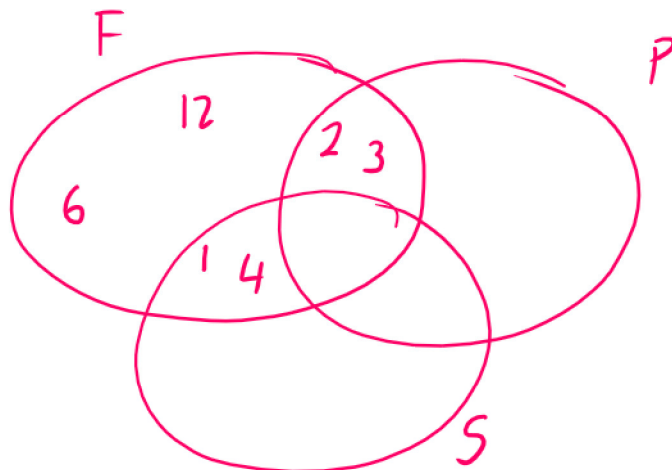
Q4

$$F = \{1, 2, 3, 4, 6, 12\}$$

$$\begin{array}{ccc} 1^2 & 2^2 & 3^2 \\ = 1 & 4 & 9 \end{array}$$

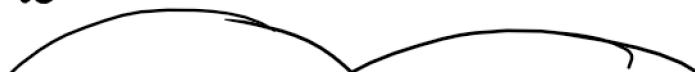
$$P = 2, 3 \text{ primes}$$

$$S = 1, 4$$



Q6

$$w(36)$$



1 (1,1)

WV

