

# SLOPE EXAM REVIEW

#16b) Determine the equation of the line:

b) perpendicular to the line

①  $y + \frac{1}{2}x - 3 = 0$  and passing through the point  $(5, 6)$ .

⑤1 rearrange equation ① into  $y = mx + b$  form.

$$y + \frac{1}{2}x - 3 = 0 \quad \xrightarrow{+3}$$

$$y = -\frac{1}{2}x + 3 \quad \xrightarrow{-\frac{1}{2}x}$$

$$y = -\frac{1x}{2} + 3$$

$$m_1 = -\frac{1}{2}$$

$m_2$  is negative reciprocal because the lines are perpendicular.

$$\therefore m_2 = \left(\frac{2}{-1}\right) \times (-1) = \frac{-2}{-1} = \frac{2}{1} = 2$$

$$m_2 = 2$$