

Student 5: Low Achieved

NZQA Intended for teacher use only

Task 1

Step 1 $x_1 \ y_1 \quad x_2 \ y_2$
 $(0,2.25) \ (4.5,0)$

$$m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{0 - 2.25}{4.5 - 0} = \frac{-2.25}{4.5} = -\frac{1}{2} \text{ gradient} = -0.5$$

①

Step 2

$$y = mx + c \text{ gradient} = -0.5 \quad 2.25 = -0.5(0) + c \quad 2.25 = 0 + c \quad c = 2.25$$

$$y = -0.5x + 2.25 \quad \text{equation of line}$$

③

Step 3

$$\frac{-4.5}{-2.25} \quad (4,1)$$

Perpendicular line equation

②

$$y = mx + c \text{ gradient} = 2$$