

DAY 6 - Find Equations of Lines from different given info

Find equation of lines given slope or y-int and a point

1. $b=7$, point (1,3)

$$y = mx + b$$

$$3 = m(1) + 7$$

$$3 = 1m + 7$$

$$-4 = m$$

$$\therefore y = -4x + 7$$

2. $b = -3$, point (2, 11)

$$y = mx + b$$

$$11 = m(2) - 3$$

$$11 = 2m - 3$$

$$14 = 2m$$

$$7 = m$$

$$\therefore y = 7x - 3$$

3. $m = \frac{2}{5}$, point (5, 2)

$$y = mx + b$$

$$2 = \frac{2}{5}(5) + b$$

$$2 = \frac{10}{5} + b$$

$$2 = 2 + b$$

0.4

$$2 - 2 = b \quad \therefore y = \frac{2}{5}x + 0$$

$$0 = b$$

5. $m = -\frac{3}{4}$, point (-4, -1)

$$y = mx + b$$

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

$$-1 = \frac{12}{4} + b$$

$$-1 = 3 + b$$

$$-1 - 3 = b$$

$$-4 = b$$

-0.75

$$\therefore y = -\frac{3}{4}x - 4$$

4. $m = \frac{1}{6}$, point (18, -3)

$$y = mx + b$$

$$-3 = \frac{1}{6}(18) + b$$

$$-3 = \frac{18}{6} + b$$

$$-3 = 3 + b$$

$$-3 - 3 = b$$

$$-6 = b$$

$$y = 0.17x - 6$$

$$\therefore y = \frac{1}{6}x - 6$$

6. $m = \frac{1}{5}$, point (3, 4)

$$y = mx + b$$

$$4 = \frac{1}{5}\left(\frac{3}{1}\right) + b$$

$$4 = \frac{3}{5} + b$$

$$5 \cdot 4 - \frac{3}{5} = b$$

$$\frac{20}{5} - \frac{3}{5} = b$$

$$\frac{17}{5} = b$$

$$0.2x + 3.4$$

$$\therefore y = \frac{1}{5}x + \frac{17}{5}$$

