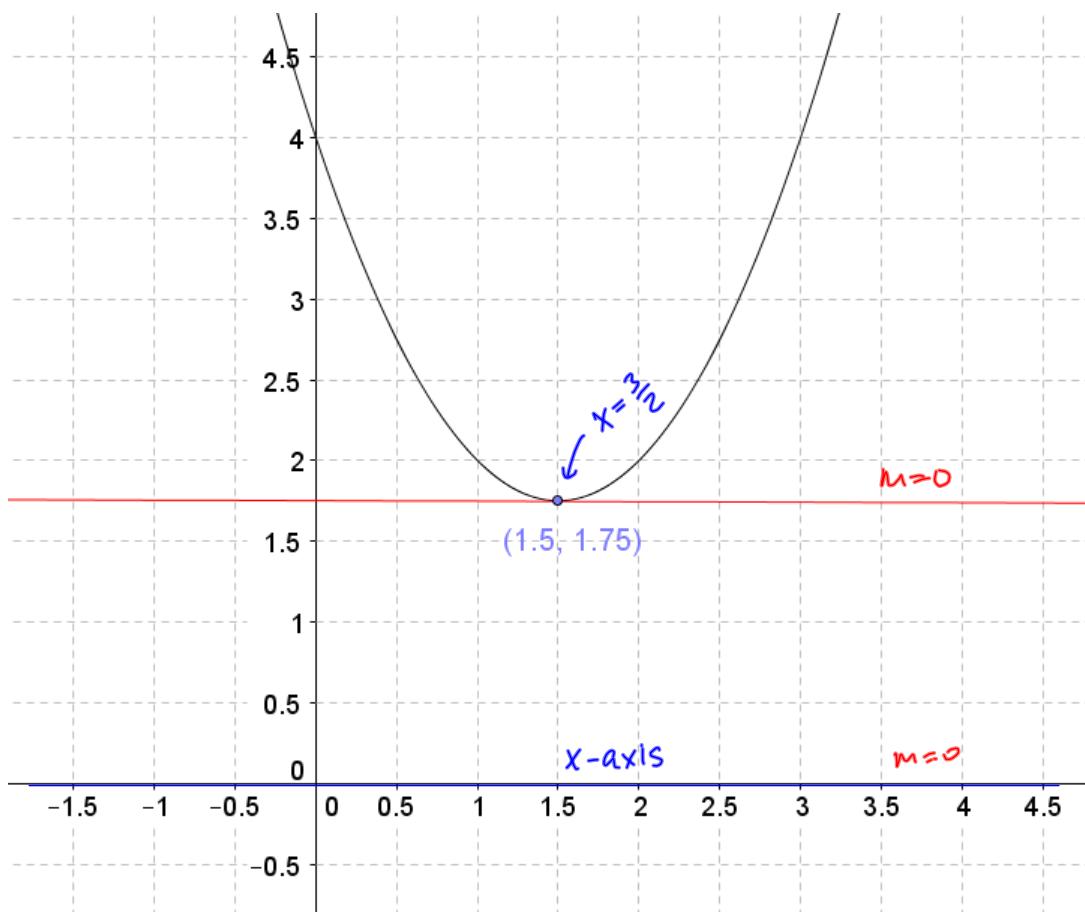
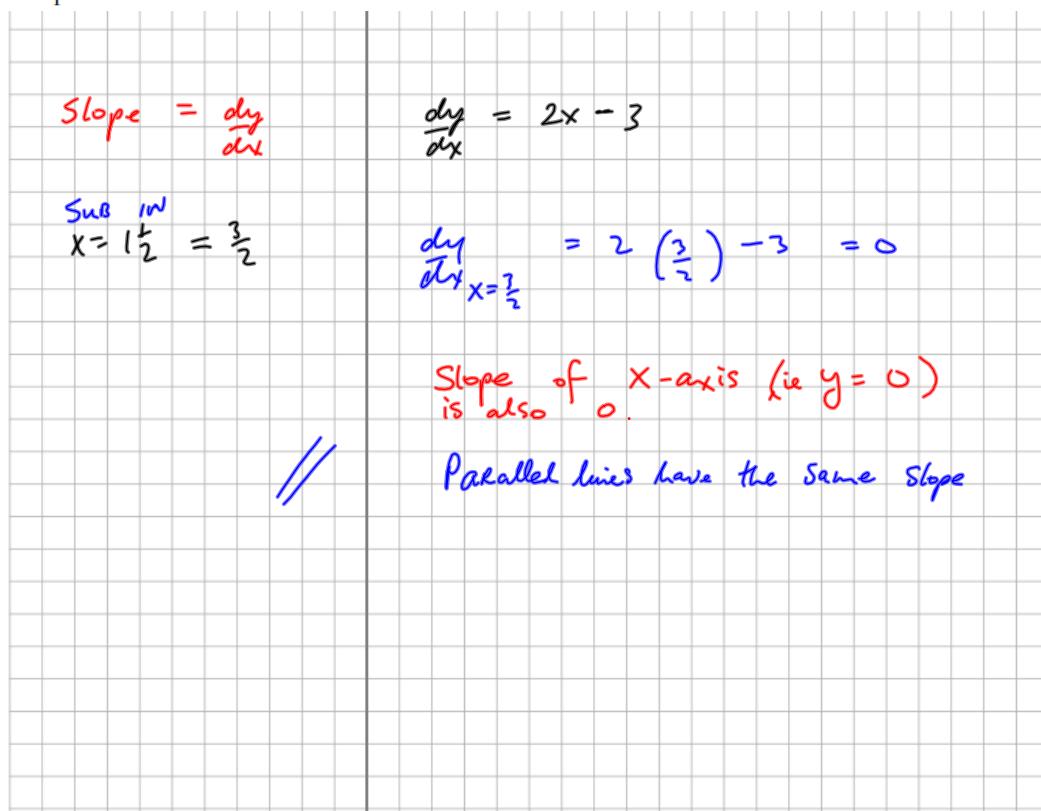


18. Show that the tangent to the curve $y = x^2 - 3x + 4$ at the point where $x = 1\frac{1}{2}$ is parallel to the x -axis.



19. Find the point on the curve $y = 2x^2 - 8x + 3$ where the tangent is parallel to the line $4x - y + 2 = 0$.

// lines have equal slopes

Slope of line

$$ax + by + c = 0$$

$$m = \frac{-a}{b}$$

$$4x - y + 2 = 0$$

$$m = \frac{-4}{-1} = 4$$

$$4x - y + 2 = 0$$

$$-y = -4x - 2$$

$$\cdot y = 4x + 2$$

$$y = mx + c$$

Slope = $\frac{dy}{dx}$
curve

$$\frac{dy}{dx} = 4x - 8$$

$$\text{Slope} = 4 \Rightarrow$$

$$4x - 8 = 4$$

$$4x = 12$$

$$x = 3$$

Sub x = 3 into
curve

$$y = 2(3)^2 - 8(3) + 3$$

$$y = 3 \quad \text{pt } (3, -3)$$

