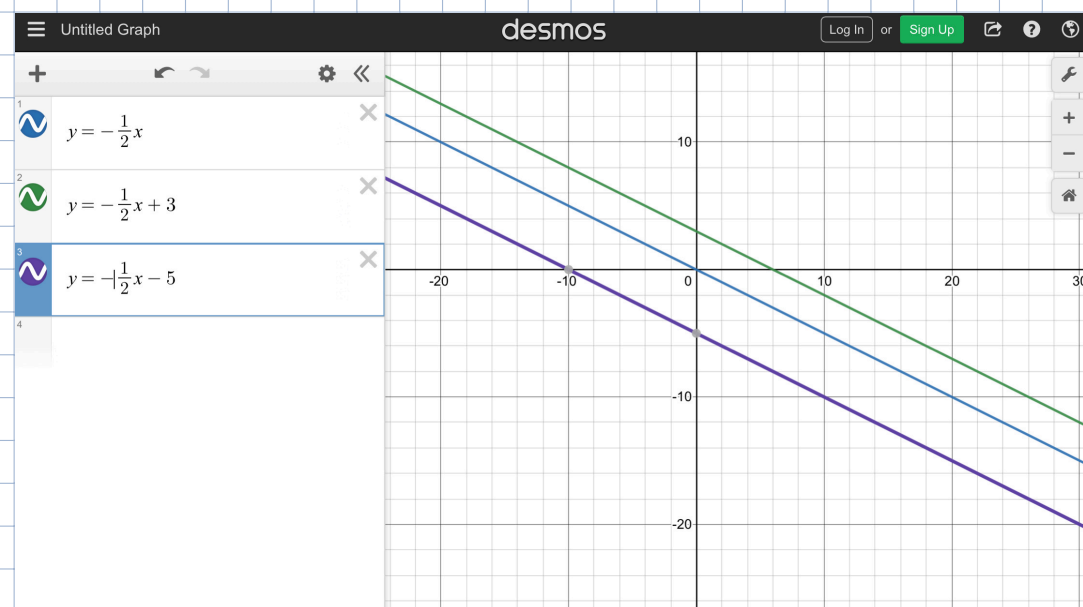
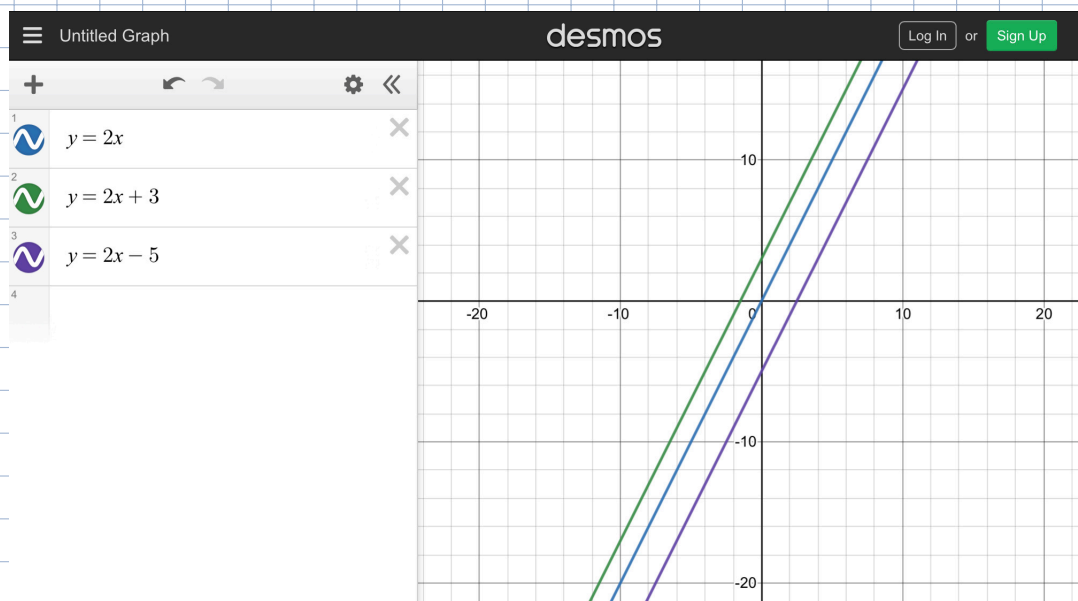


# Parallel Lines

Lines are parallel if and only if they have the same gradient



Example 1 Find the equation of a line parallel to  $y = 2x - 4$  passing through  $(6, -6)$

Gradient = 2

Line is of the form  $y = 2x + c$

$$\text{Sub}(6, -6)$$

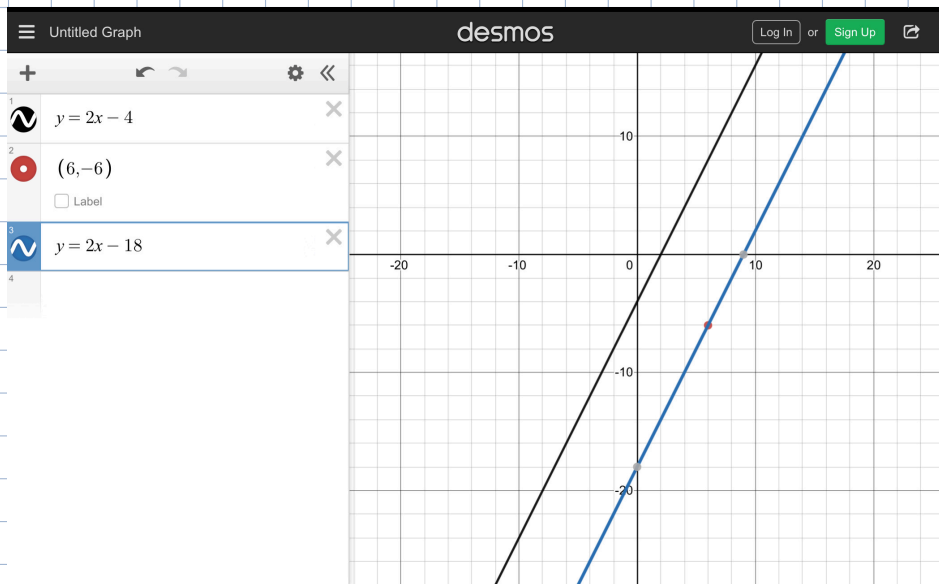
$$-6 = 2(6) + c$$

$$-6 = 12 + c$$

$$-6 - 12 = c$$

$$-18 = c$$

Line is  $y = 2x - 18$



Ex2

Find line parallel to  $y = -\frac{1}{2}x + 5$   
passing through  $(2, 7)$

Line of form

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

$$\text{Sub}(2, 7)$$

$$7 = -\frac{1}{2}(2) + c$$

$$7 = -1 + c$$

$$7 + 1 = c$$

$$8 = c$$

Line is  $y = -\frac{1}{2}x + 8$

