

Sketch graphs of simple cubic functions written in form $f(x) = (x \pm a)(x \pm b)(x \pm c)$

Miss Davies

Please note some slides do have colour font on them



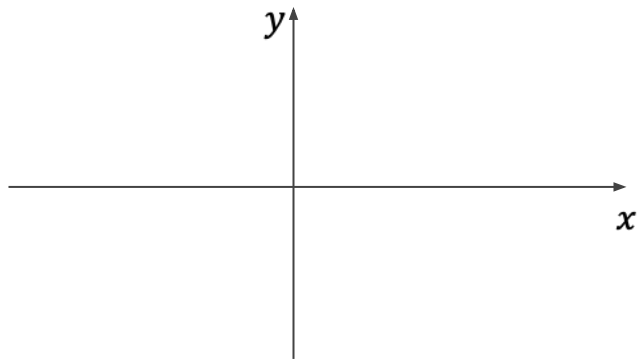
Sketch graphs of simple cubic functions

1. For $y = (x + 1)(x + 4)(x - 2)$

a) Find the x-intercepts using $y = 0$

b) Find the y-intercept using $x = 0$

c) Sketch the graph.

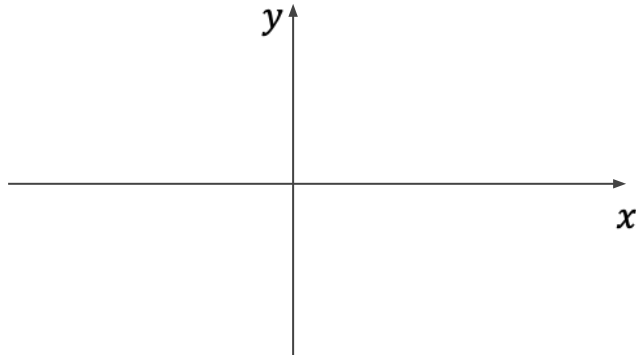


2. For $y = (x - 1)(x - 3)(x + 2)$

a) Find the x-intercepts using $y = 0$

b) Find the y-intercept using $x = 0$

c) Sketch the graph.



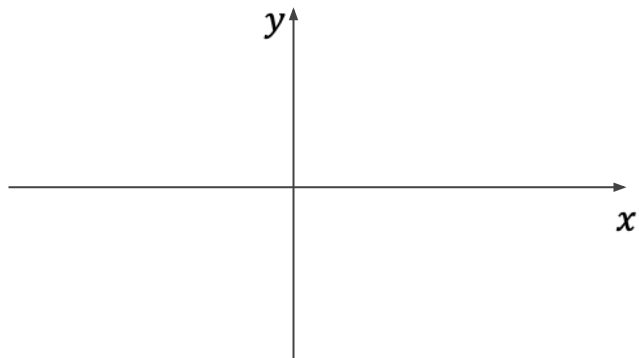
Sketch graphs of simple cubic functions

3. For $y = (x + 3)^2(x - 2)$

a) Find the x-intercepts using $y = 0$

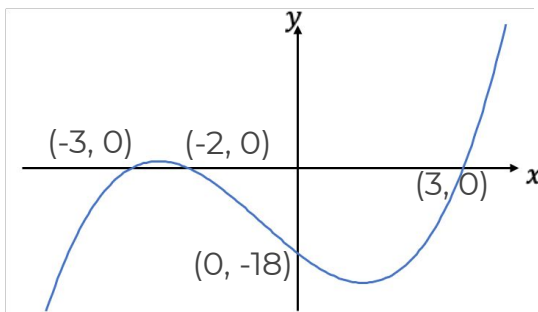
b) Find the y-intercept using $x = 0$

c) Sketch the graph.

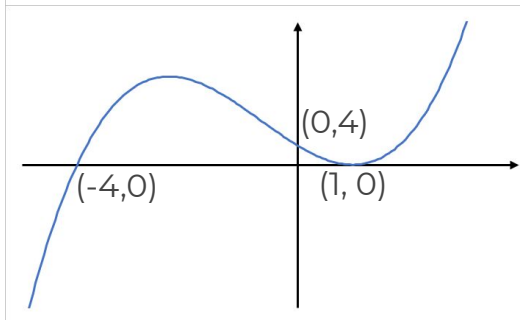


4. Write the functions shown in the form $y = (x + a)(x + b)(x + c)$.

a)



b)



Answers



Sketch graphs of simple cubic functions

1. For $y = (x + 1)(x + 4)(x - 2)$

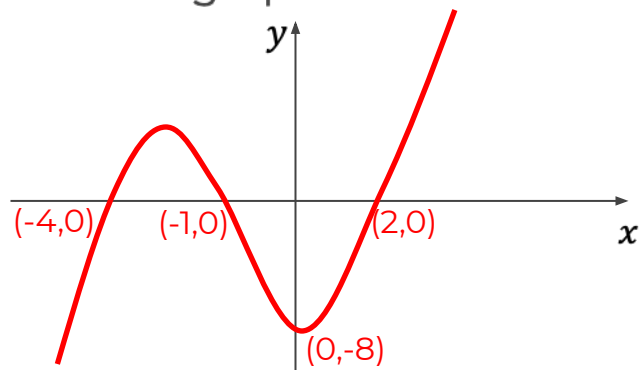
a) Find the x-intercepts using $y = 0$

$$x = -1, x = -4, x = 2$$

b) Find the y-intercept using $x = 0$

$$y = -8$$

c) Sketch the graph.



2. For $y = (x - 1)(x - 3)(x + 2)$

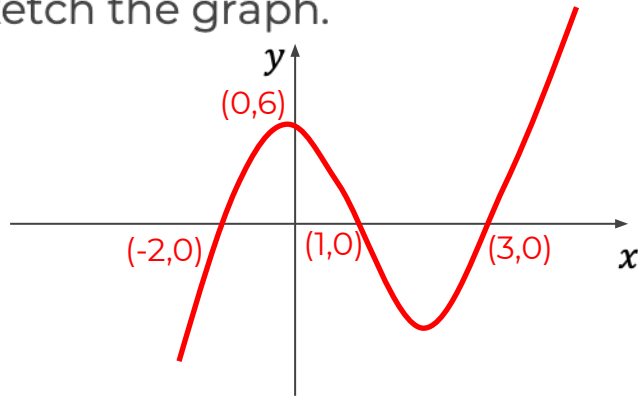
a) Find the x-intercepts using $y = 0$

$$x = 1, x = 3, x = -2$$

b) Find the y-intercept using $x = 0$

$$y = 6$$

c) Sketch the graph.



Sketch graphs of simple cubic functions

3. For $y = (x + 3)^2(x - 2)$

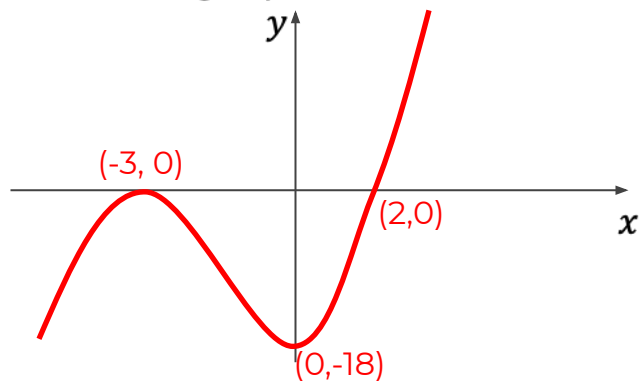
a) Find the x-intercepts using $y = 0$

$$x = -3, x = 2$$

b) Find the y-intercept using $x = 0$

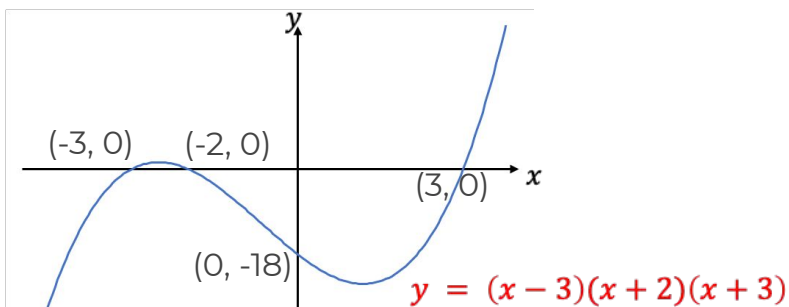
$$y = -18$$

c) Sketch the graph.



4. Write the functions shown in the form $y = (x + a)(x + b)(x + c)$.

a)



b)

