

Find the y-intercept for each function.

1) $f(x) = 2x^2 + 3x - 8$

2) $f(x) = -2(x - 1)^2 + 3$

3) $f(x) = -9x^4 + x^3 - 6x^2 + x + 3$

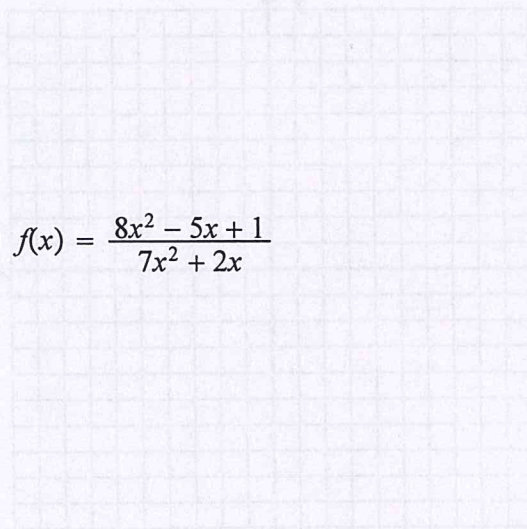
4) $f(x) = (2x - 1)(5x + 2)(x - 9)$

5) $f(x) = 4x(2x - 11)(6x + 13)(7x - 29)$

6) $f(x) = \frac{7x^2 + 4x - 8}{2x^3 - x^2 + 9x - 2}$

7) $f(x) = \frac{x^2 + 9x}{4x^2 + 3}$

8) $f(x) = \frac{8x^2 - 5x + 1}{7x^2 + 2x}$



Find the y-intercept for each function.

1) $f(x) = 2x^2 + 3x - 8$

$$f(0) = 2(0)^2 + 3(0) - 8$$

$$y\text{-int} = -8$$

2) $f(x) = -2(x-1)^2 + 3$

$$\begin{aligned} f(0) &= -2(0-1)^2 + 3 \\ &= -2(-1)^2 + 3 \\ &= -2(1) + 3 \\ &= -2 + 3 \end{aligned}$$

$$y\text{-int} = 1$$

3) $f(x) = -9x^4 + x^3 - 6x^2 + x + 3$

$$f(0) = -9(0)^4 + (0)^3 - 6(0)^2 + (0) + 3$$

$$y\text{-int} = 3$$

4) $f(x) = (2x-1)(5x+2)(x-9)$

$$\begin{aligned} f(0) &= (2(0)-1)(5(0)+2)(0-9) \\ &= (-1)(2)(-9) \end{aligned}$$

$$y\text{-int} = 18$$

5) $f(x) = 4x(2x-11)(6x+13)(7x-29)$

$$\begin{aligned} f(0) &= 4(0)(2(0)-11)(6(0)+13)(7(0)-29) \\ &= 0(-11)(13)(-29) \end{aligned}$$

$$y\text{-int} = 0$$

6) $f(x) = \frac{7x^2 + 4x - 8}{2x^3 - x^2 + 9x - 2}$

$$\begin{aligned} f(0) &= \frac{7(0)^2 + 4(0) - 8}{2(0)^3 - (0)^2 + 9(0) - 2} \\ &= \frac{-8}{-2} \end{aligned}$$

$$y\text{-int} = 4$$

7) $f(x) = \frac{x^2 + 9x}{4x^2 + 3}$

$$\begin{aligned} f(0) &= \frac{(0)^2 + 9(0)}{4(0)^2 + 3} \\ &= \frac{0}{3} \end{aligned}$$

$$y\text{-int} = 0$$

8) $f(x) = \frac{8x^2 - 5x + 1}{7x^2 + 2x}$

$$\begin{aligned} f(0) &= \frac{8(0)^2 - 5(0) + 1}{7(0)^2 + 2(0)} \\ &= \frac{1}{0} \Rightarrow \text{undefined} \end{aligned}$$

$$\text{NO } y\text{-int}$$