

Exercise 26

In Exercises 19–28, find any intercepts.

$$y = \frac{x^2 + 3x}{(3x + 1)^2}$$

Solution

To find the y -intercept, plug in $x = 0$ to the function.

$$y = \frac{(0)^2 + 3(0)}{(3(0) + 1)^2} = 0$$

Therefore, the y -intercept is $(0, 0)$. To find the x -intercept(s), set $y = 0$ and solve the equation for x .

$$\frac{x^2 + 3x}{(3x + 1)^2} = 0$$

$$x^2 + 3x = 0$$

$$x(x + 3) = 0$$

$$x = \{-3, 0\}$$

Therefore, the x -intercepts are $(-3, 0)$ and $(0, 0)$.

