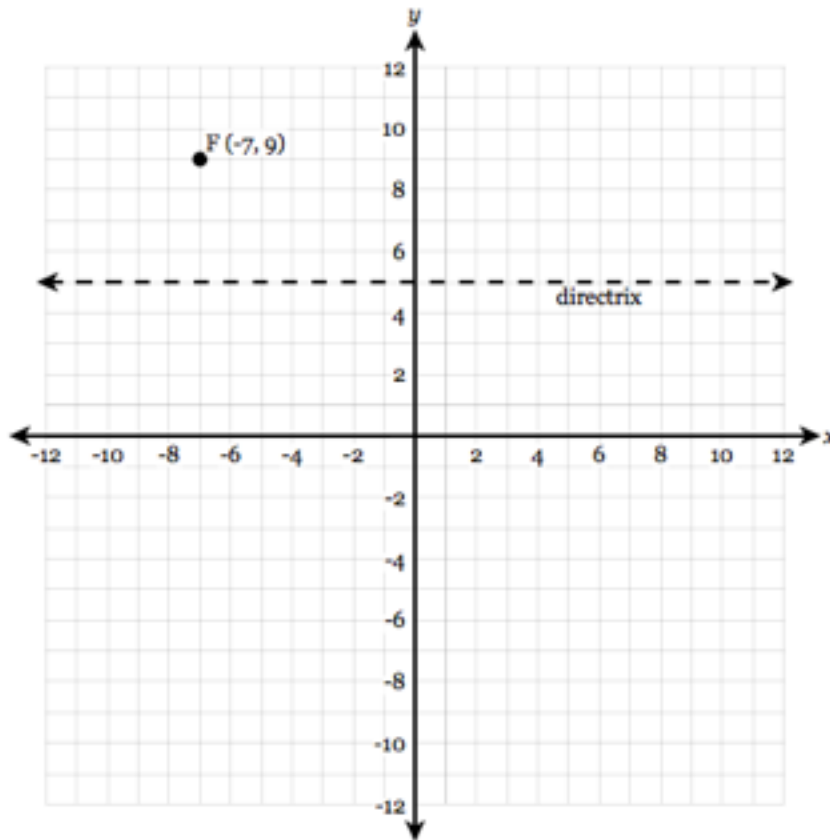


1. A parabola can be drawn given a focus of  $(-7, 9)$  and a directrix of  $y = 5$ . Write the equation of the parabola in any form.



2. Solve for all possible values of x.

$$\sqrt{10x + 51} = x + 6$$

3. For the function  $f(x) = \sqrt[3]{x} + 3$ , find  $f^{-1}(x)$ .

4. Determine which function has a greater average rate of change on the interval  $[1, 3]$ .

$x$	$g(x)$
-1	16
1	8
3	8
5	16

$$h(x) = -x^2 + 2x + 24$$

c

5. Given the functions  $f(x)$  and  $g(x)$  below, find all solutions to the equation  $f(x) = g(x)$  to the nearest hundredth.

$$f(x) = 0.25x^3 - 3x^2 + 9.4x - 9.8$$

$$g(x) = -|0.9x| - 1$$

**HINT- use 2nd TRACE 5 on your calculator!**