

Name:

Problem 1

Simplify:

a) $\frac{(x^3y^{-3})^2}{x^4y^{-2}}$

b) $\sqrt[4]{\frac{x^{12}y^{16}}{16^2}}$

Rationalize the denominator:

a) $\frac{\sqrt{5}}{\sqrt{3}}$

b) $\frac{\sqrt{2}}{\sqrt{7}-1}$

Problem 2

Complete the square and solve for x.

a) $x^2 - 7x + 2$

b) $x^2 + 10x - 3$

Problem 3

Find the center and radius of the circle given by the following equation

$$x^2 - 4x + y^2 - 2y - 20 = 0$$

Problem 4

Draw a graph (sketch) of each function and give the domain and range.

a) $f(x) = x^2$

Domain:

Range:

b) $f(x) = \sqrt{x}$

Domain:

Range:

c) $f(x) = \frac{1}{x}$

Domain:

Range: