

1.8 Rational Functions and Zeros

AP Precalculus

Name: _____

CA #2

Find the zeros of the following rational functions.

1.

$$f(x) = \frac{x^2 - 4}{x + 2}$$

2.

$$g(x) = \frac{x^2 + 4x}{x^2 - 4x - 12}$$

3.

$$h(t) = \frac{t^2 - 2t - 15}{t - 5}$$

Use the rational functions to answer the following

4.

$$f(x) = \frac{(x + 4)(x - 2)}{x^2 - 2x}$$

a. Domain:

b. Hole(s):

c. Zero(s):

d. Vertical Asymptote(s):

5.

$$d(t) = \frac{t^2 - 9}{t + 3}$$

a. Domain:

b. Hole(s):

c. Zero(s):

d. Vertical Asymptote(s):

6.

$$r(x) = \frac{x^2 - x - 20}{2x - 8}$$

a. Domain:

b. Hole(s):

c. Zero(s):

d. Vertical Asymptote(s):

Answers to 1.8 CA #2

1. $x = 2$	2. $x = -4$ and 0	3. $t = -3$
4. a. $(-\infty, 0) \cup (0, 2) \cup (2, \infty)$ b. $x = 2$ c. $x = -4$ d. $x = 0$	5. a. $(-\infty, -3) \cup (-3, \infty)$ b. $t = -3$ c. $t = 3$ d. No Vertical Asymptotes	6. a. $(-\infty, 4) \cup (4, \infty)$ b. No Holes c. $x = -4$ and 5 d. $x = 4$