Name: _____   **CA #1**

| Find the zeros of the following rational functions. |

1.

$$f(x) = \frac{x + 2}{x^2 - 9}$$

2.

$$g(x) = \frac{x^2 + 3x}{x^2 - 4x - 21}$$

3.

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

| Use the rational functions to answer the following |

4.

$$f(x) = \frac{(x + 3)(x + 5)}{x^2 + 3x}$$

a. Domain:

b. Hole(s):

c. Zero(s):

d. Vertical Asymptote(s):

5.

$$d(t) = \frac{t^2 - 1}{t + 3}$$

a. Domain:

b. Hole(s):

c. Zero(s):

d. Vertical Asymptote(s):

6.

$$r(x) = \frac{x^2 - 3x - 18}{2x - 12}$$

a. Domain:

b. Hole(s):

c. Zero(s):

d. Vertical Asymptote(s):

Answers to 1.8 CA #1

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