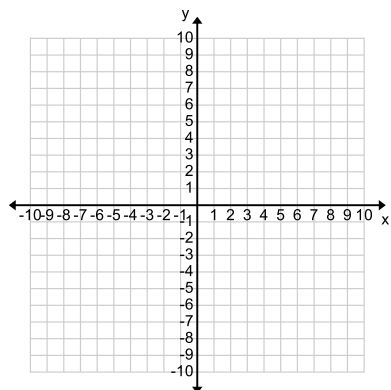


Graph the following functions and find all of the critical information.

1.  $y = \frac{x^2 - 36}{x + 4}$



D:

V:

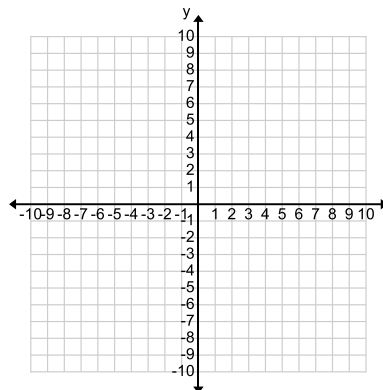
H:

X:

Y:

E:

2.  $y = \frac{x^2 - x - 12}{x^2 + x - 2}$



D:

V:

H:

X:

Y:

E:

3. Use the critical information to graph.

**D:**  $(-\infty, -2) \cup (-2, 2) \cup (2, \infty)$

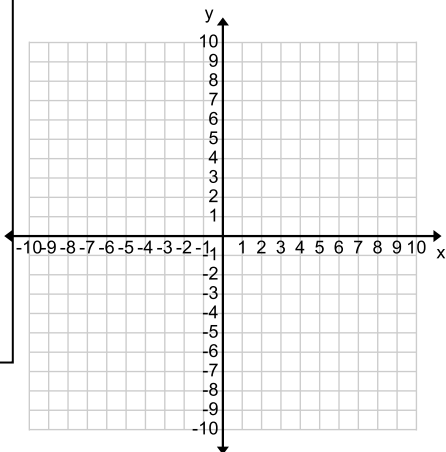
**V:**  $x = 2, \text{ mult. } 2,$   
 $x = -2 \text{ mult. } 2$

**H:** NONE

**X:**  $(-5, 0)$

**Y:**  $(0, -4)$

**E:**  $y = x^2$



4. Use the critical information to write the equation in factored form.

**D:**  $(-\infty, -2) \cup (-2, -1) \cup (-1, 3) \cup (3, \infty)$

**V:**  $x = 3, \text{ mult. } 3, x = -2 \text{ mult. } 2$

**H:**  $(-1, 0)$

**X:**  $x = 0 \text{ mult. } 2, x = -1 \text{ mult. } 2, x = -5 \text{ mult. } 2$

**Y:**  $(0, 0)$

**E:**  $y = \frac{3}{4}$

5. Simplify the rational expression.

$$\frac{v^2 + 10v + 21}{6v^2} \times \frac{1}{v + 7}$$

6. Solve the rational expression.

$$\frac{6}{n - 6} = \frac{n + 5}{n^2 - 6n} + \frac{1}{n^2 - 6n}$$

7. Use the graph to find all the critical information.

D:

V:

H:

X:

Y:

E:

