Algebra 2 Name_____ ID: 1

Assignment

Date_____ Period____

Identify the domain of each.

1) $f(x) = \dfrac{3x^2 - 12x}{x^2 - 3x - 4}$

A) Domain: All reals except –4, 3
B) Domain: All reals except –1, 4
C) Domain: All reals except 4, –1
D) Domain: All reals except 0, 4

2) $f(x) = \dfrac{2x^2 - 32}{x^2 + 4x}$

A) Domain: All reals except 0, –4
B) Domain: All reals except –2, 2
C) Domain: All reals except 0
D) Domain: All reals except 4, –4

Identify the x-intercepts of each.

3) $f(x) = \dfrac{x + 3}{2x + 4}$

A) X-intercepts: –3
B) X-intercepts: 4, –4
C) X-intercepts: –2
D) X-intercepts: None

4) $f(x) = \dfrac{x^2 - 2x}{-3x + 3}$

A) X-intercepts: None
B) X-intercepts: 1
C) X-intercepts: 0, 2
D) X-intercepts: 3

Identify the vertical asymptotes of each.

5) $f(x) = \dfrac{x^2 - x - 6}{4x - 4}$

A) Vertical Asym.: $x = 2$, $x = -3$
B) Vertical Asym.: $x = 1$
C) Vertical Asym.: $x = 3$, $x = -2$
D) Vertical Asym.: $x = 4$

6) $f(x) = \dfrac{-x + 3}{x^2 - 4}$

A) Vertical Asym.: $x = 3$, $x = -2$
B) Vertical Asym.: $x = 1$
C) Vertical Asym.: $x = 2$, $x = -2$
D) Vertical Asym.: $x = 3$

Identify the horizontal asymptote of each.

7) $f(x) = \dfrac{x^2 - 3x + 2}{-2x^2 + 6x}$

A) Horz. Asym.: $y = -\dfrac{1}{2}$
B) Horz. Asym.: $y = 0$
C) Horz. Asym.: $y = -2$
D) Horz. Asym.: $y = 1$

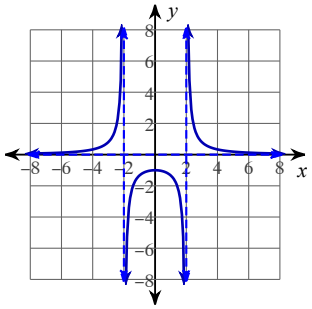
8) $f(x) = \dfrac{x + 4}{4x^2 - 12x}$

A) Horz. Asym.: $y = 2$
B) Horz. Asym.: $y = 0$
C) Horz. Asym.: None
D) Horz. Asym.: $y = -\dfrac{1}{4}$

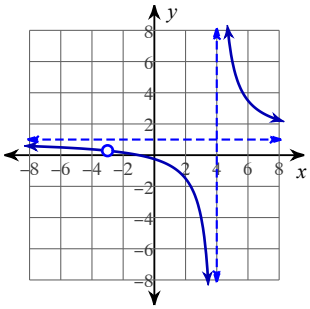
Graph each function.

9) $f(x) = \dfrac{4}{x^2 - 4}$

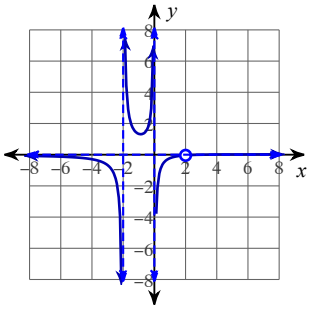
A)



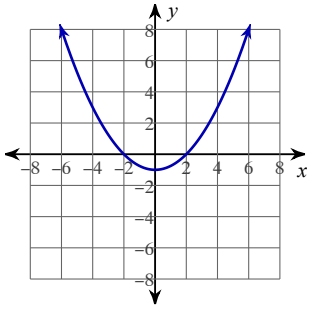
B)



C)

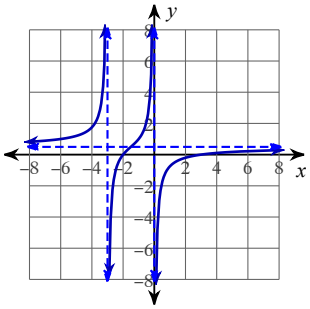


D)

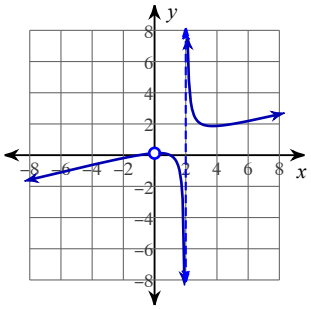


10) $f(x) = \dfrac{2x^2 + 6x}{x^2 - x - 6}$

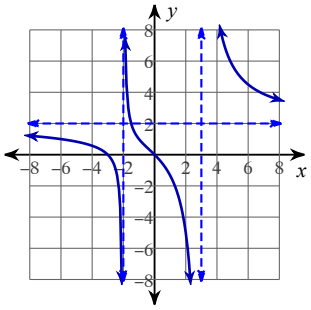
A)



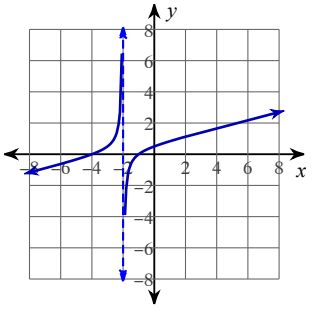
B)



C)



D)



11) $f(x) = \dfrac{3x^2 - 18x + 24}{x^2 - 7x + 12}$