

Name : _____

Score : _____

Teacher : _____

Date : _____

Graphing General Rational Functions

Find the vertical and horizontal asymptotes as well as the domain and range.

1) $\frac{-1}{x^2 - 4x}$

2) $\frac{-3}{x + 2}$

3) $\frac{x - 2}{-4x - 16}$

4) $\frac{x^3 - 4x}{x^2 - 7x + 12}$

5) $\frac{1}{x - 2} + 2$

6) $\frac{-3}{x - 3}$

7) $\frac{x^3 - 16x}{x^2 + x - 6}$

8) $\frac{-2}{x} + 1$



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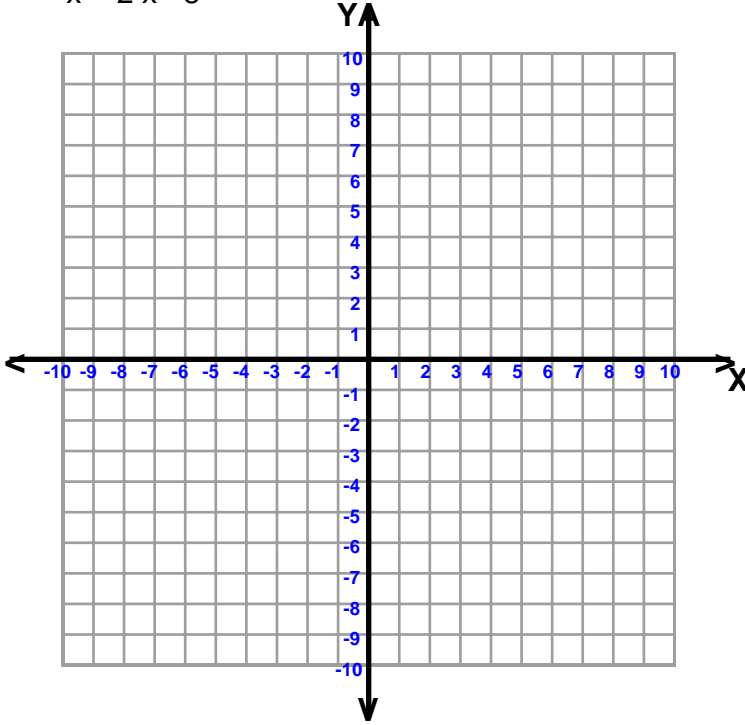
Teacher : _____

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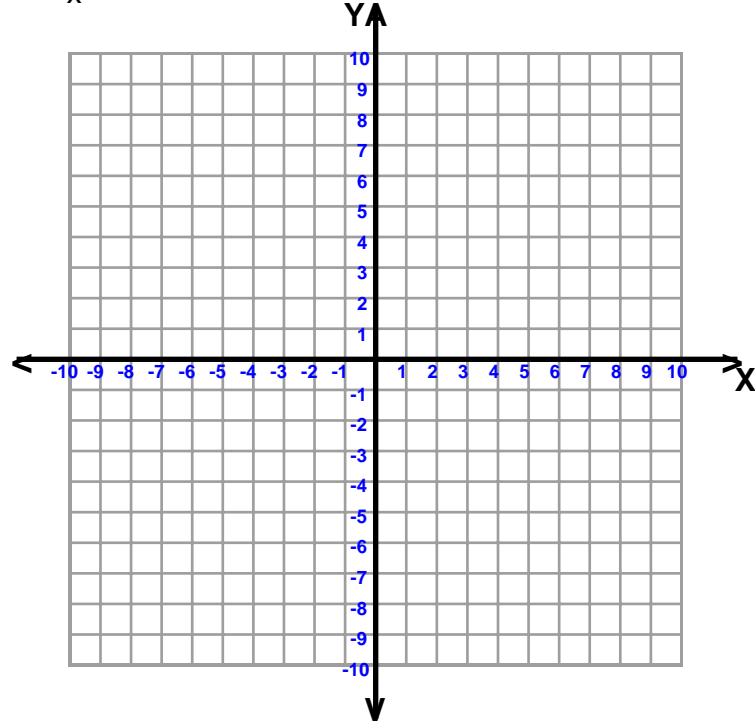
Graphing General Rational Functions

Graph the given function

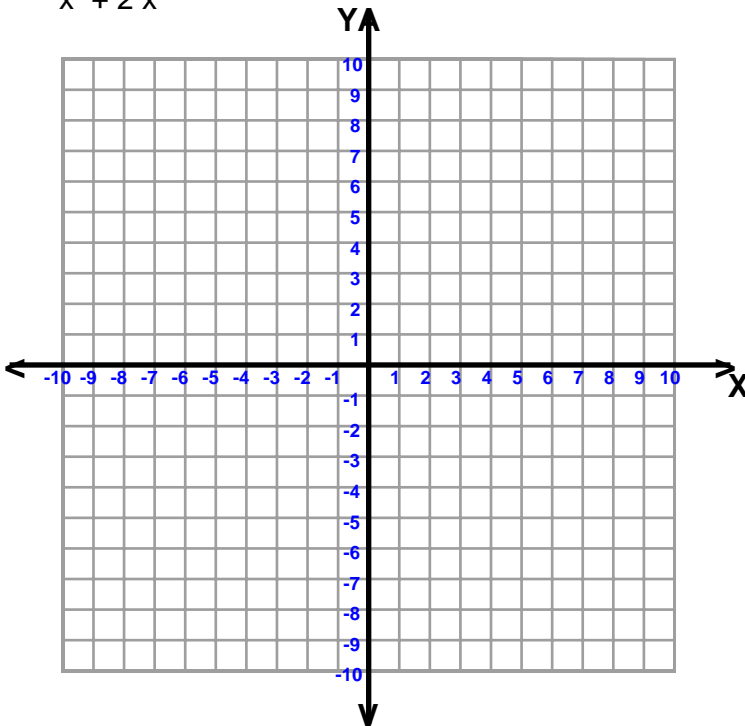
9) $\frac{x^3 + x^2 - 6x}{x^2 - 2x - 8}$



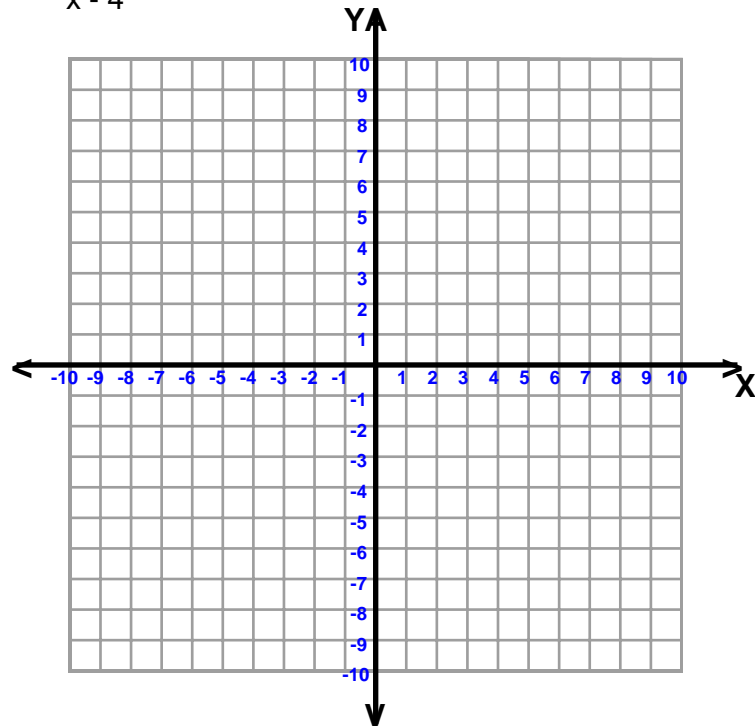
10) $\frac{2}{x}$



11) $\frac{-2}{x^2 + 2x}$



12) $\frac{-3}{x - 4} - 3$



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Graphing General Rational Functions

Find the vertical and horizontal asymptotes as well as the domain and range.

1) $\frac{-1}{x^2 - 4x}$

Discontinuities: 0, 4
Horiz. Asym. : $y = 0$
Vert. Asym. : $x = 0, x = 4$
Holes: None
X Ints. : None

2) $\frac{-3}{x + 2}$

Discontinuities: -2
Horiz. Asym. : $y = 0$
Vert. Asym. : $x = -2$
Holes: None
X Ints. : None

3) $\frac{x - 2}{-4x - 16}$

Discontinuities: -4
Horiz. Asym. : $y = \frac{1}{-4}$
Vert. Asym. : $x = -4$
Holes: None
X Ints. : 2

4) $\frac{x^3 - 4x}{x^2 - 7x + 12}$

Discontinuities: 4, 3
Horiz. Asym. : None
Vert. Asym. : $x = 4, x = 3$
Holes: None
X Ints. : 0, 2, -2

5) $\frac{1}{x - 2} + 2$

Discontinuities: 2
Horiz. Asym. : $y = 2$
Vert. Asym. : $x = 2$
Holes: None
X Ints. : None

6) $\frac{-3}{x - 3}$

Discontinuities: 3
Horiz. Asym. : $y = 0$
Vert. Asym. : $x = 3$
Holes: None
X Ints. : None

7) $\frac{x^3 - 16x}{x^2 + x - 6}$

Discontinuities: -3, 2
Horiz. Asym. : None
Vert. Asym. : $x = -3, x = 2$
Holes: None
X Ints. : 0, 4, -4

8) $\frac{-2}{x} + 1$

Discontinuities: 0
Horiz. Asym. : $y = 1$
Vert. Asym. : $x = 0$
Holes: None
X Ints. : None



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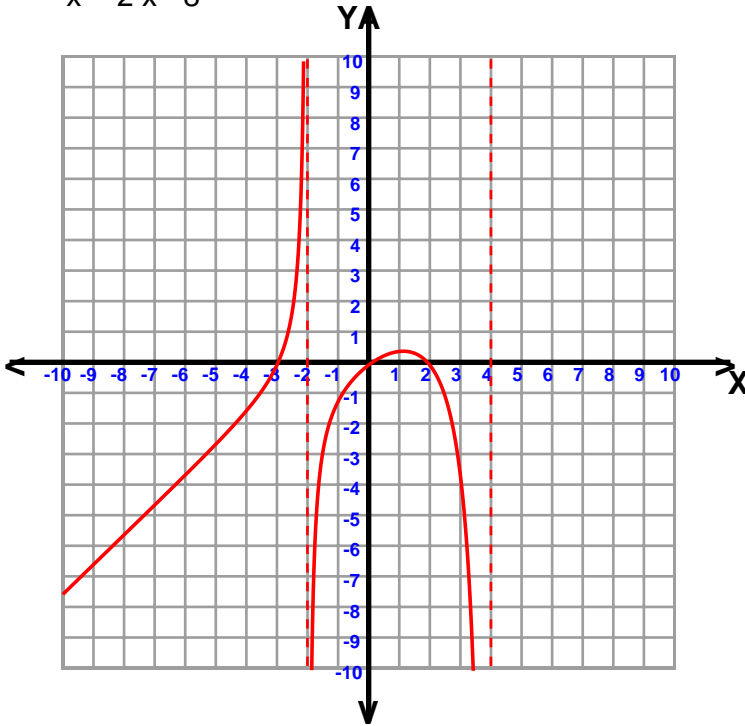
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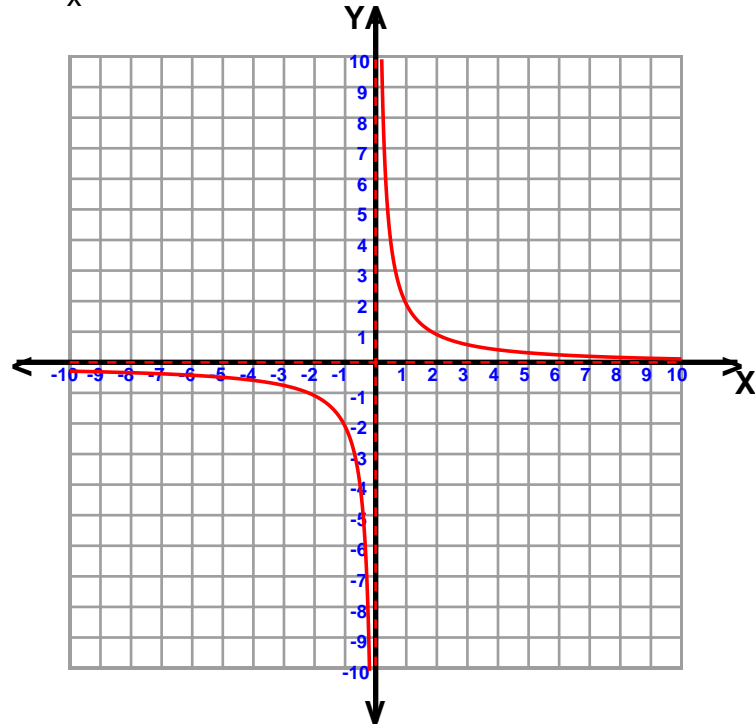
Graphing General Rational Functions

Find the vertical and horizontal asymptotes as well as the domain and range.

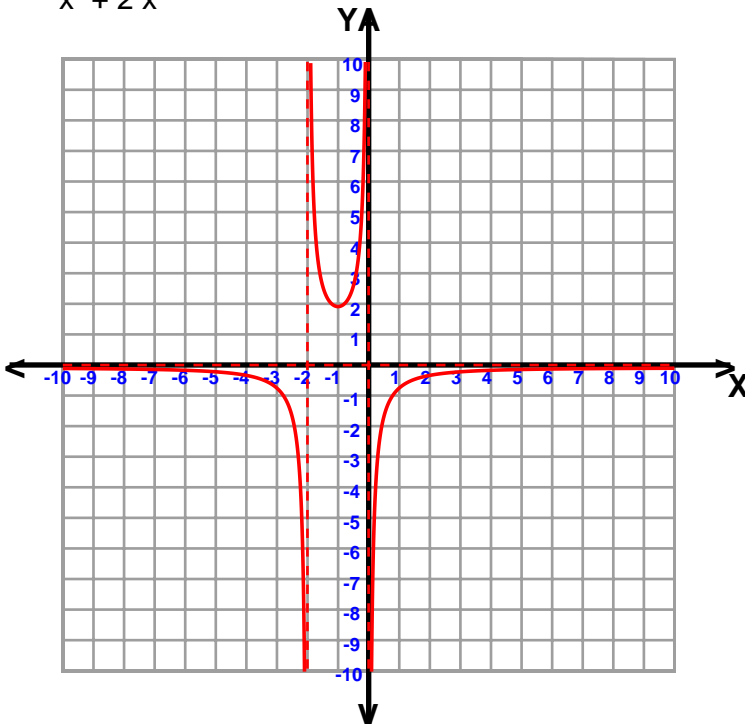
9) $\frac{x^3 + x^2 - 6x}{x^2 - 2x - 8}$



10) $\frac{2}{x}$



11) $\frac{-2}{x^2 + 2x}$



12) $\frac{-3}{x - 4} - 3$

