Unit 8 day 4 notes

Bell Work

Solve the system.

1. $x^2 + y^2 = 169$
   $x + y = 17$

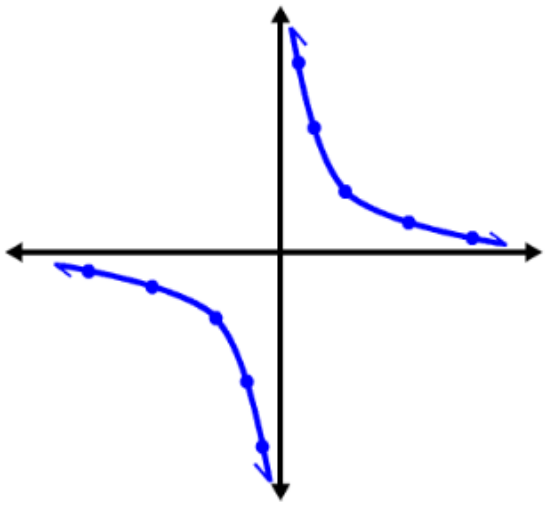
2. $y = x^2 + 4x - 2$
   $y = 6x - 3$

Solve:

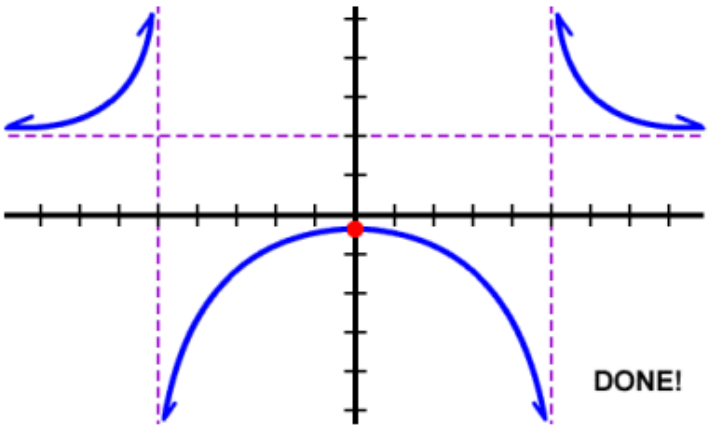
3. $\frac{x+2}{x} = \frac{2x+4}{3}$

4. $\frac{x}{x-1} - \frac{1}{x-2} = \frac{2x-5}{x^2-3x+2}$

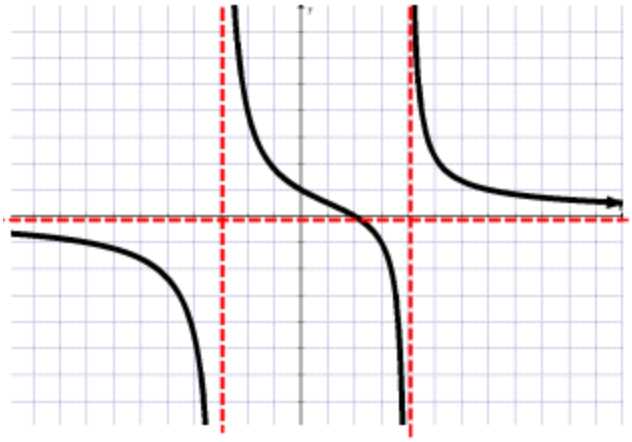
Rational Equations



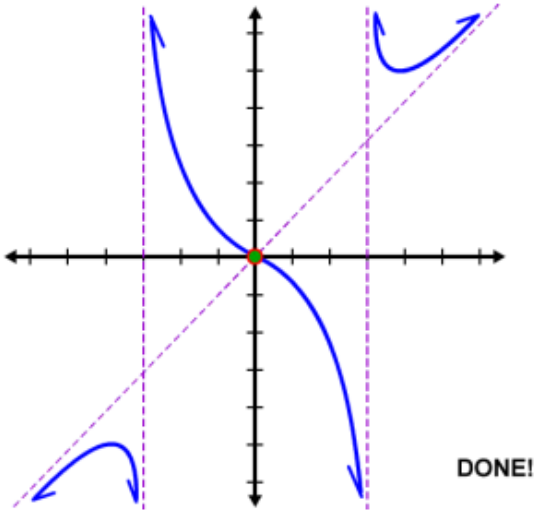
$y = \frac{1}{x}$



$y = \frac{2x^2 + 10}{x^2 - 25}$



$$y = \frac{6x - 12}{x^2 - x - 12}$$



$$y = \frac{x^3}{x^2 - 9}$$

How do you find the x-intercept(s)? y–intercept?

What is an asymptote?

How do you find the vertical asymptote(s)?

How do you find the horizontal asymptote?

Identify the intercepts and asymptotes.

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

2. $y = \frac{x - 3}{x^2 - 2x - 8}$

3. $y = \frac{3x+2}{x^2 - 3}$

4. $y = \frac{3}{x^2}$

5. $y = \frac{x^2-7x+12}{x^2-36}$

6. $y = \frac{x^2-5}{x+2}$

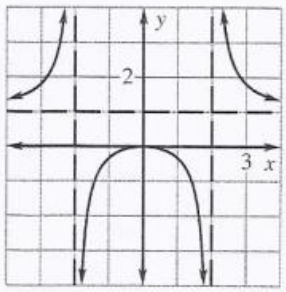
Match the function with its graph.

7. $y = \frac{x}{x^2-1}$

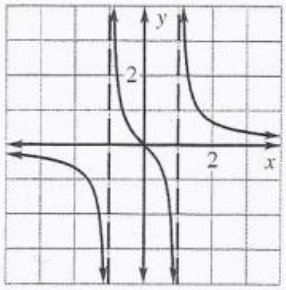
8. $y = \frac{x^2}{x^2-4}$

9. $y = \frac{x^2-x-6}{x+1}$

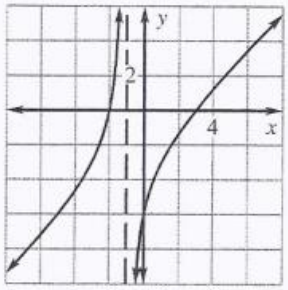
A.



B.



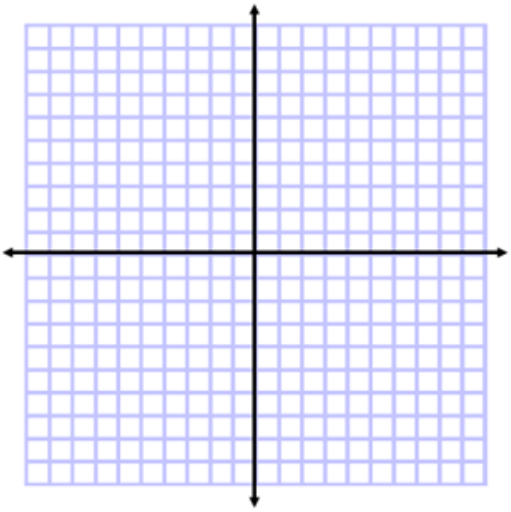
C.

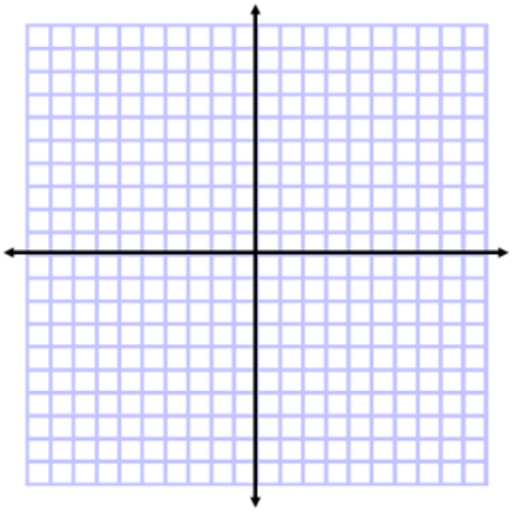


Graph the function and show all intercepts and asymptotes.

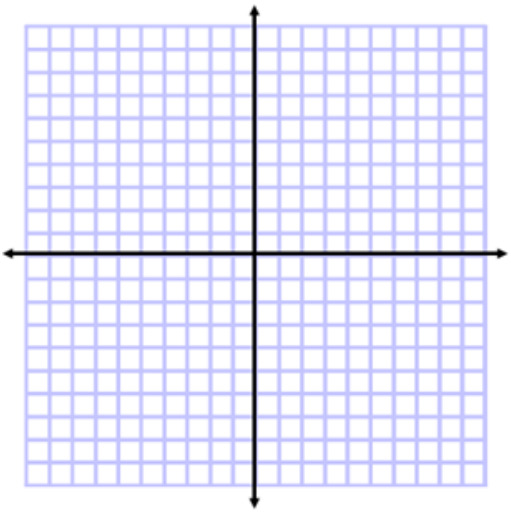
10. $f(x) = \frac{3}{x^2-1}$

11. $g(x) = \frac{2x}{x^2-9}$

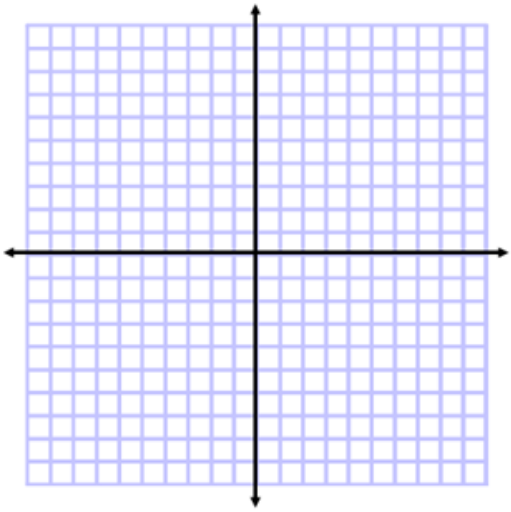




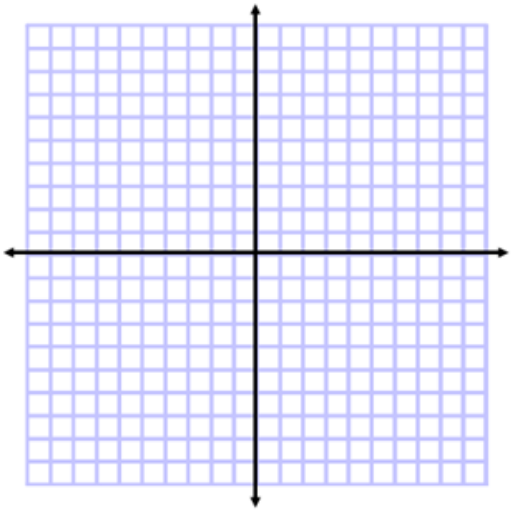
12. $f(x) = \frac{2x+6}{x^2+8x+12}$



13. $f(x) = \frac{x^2-4}{x^2-4x+3}$



14. $h(x) = \frac{x}{(x-1)(x+5)}$



15. $f(x) = \frac{5x-10}{x+6}$