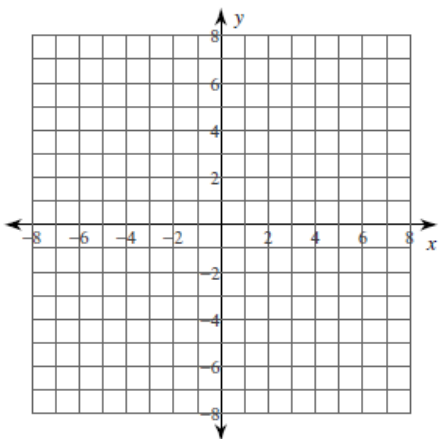


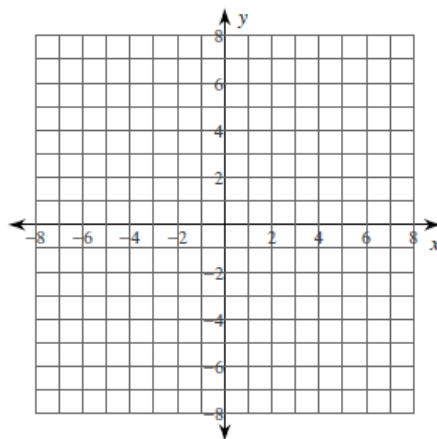
Graphing Rational Functions Practice

Identify the holes, vertical asymptotes, x-intercepts, horizontal asymptote, and domain of each; sketch the graph.

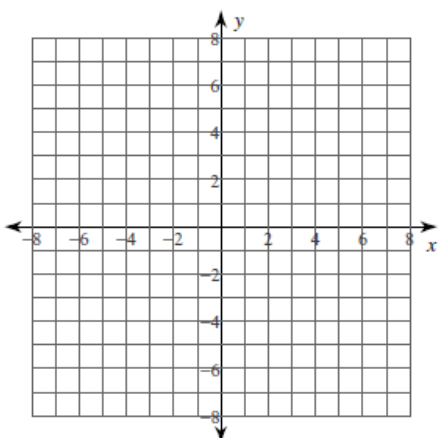
1) $f(x) = \frac{4}{x-3}$



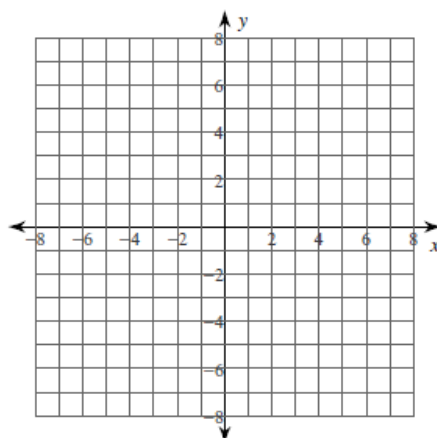
2) $f(x) = \frac{x^2 + 7x + 12}{-2x^2 - 2x + 12}$



3) $f(x) = \frac{1}{-x+4}$

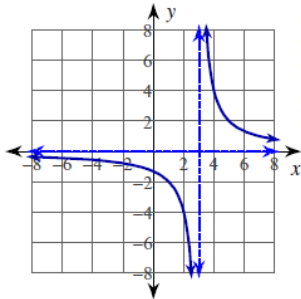


4) $f(x) = \frac{-3x+12}{x^2-3x-4}$



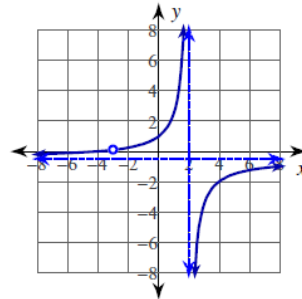
Answers

1)



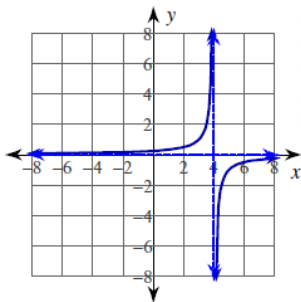
Vertical Asym.: $x = 3$
 Holes: None
 Horz. Asym.: $y = 0$
 X-intercepts: None
 Domain:
 All reals except 3

2)



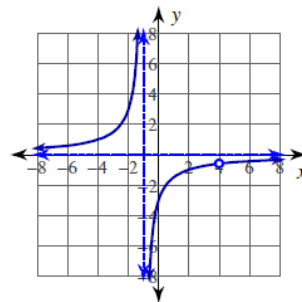
Vertical Asym.: $x = 2$
 Holes: $x = -3$
 Horz. Asym.: $y = -\frac{1}{2}$
 X-intercepts: -4
 Domain:
 All reals except 2, -3

3)



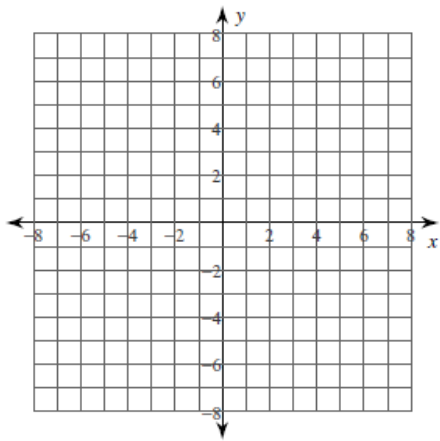
Vertical Asym.: $x = 4$
 Holes: None
 Horz. Asym.: $y = 0$
 X-intercepts: None
 Domain:
 All reals except 4

4)

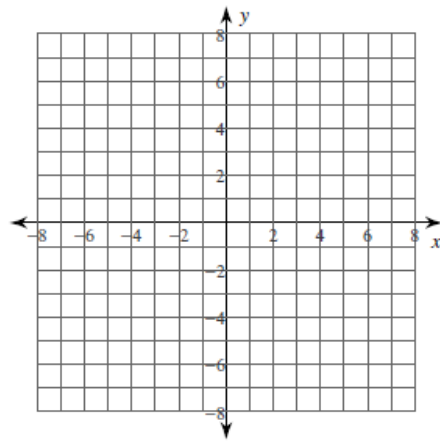


Vertical Asym.: $x = -1$
 Holes: $x = 4$
 Horz. Asym.: $y = 0$
 X-intercepts: None
 Domain:
 All reals except $-1, 4$

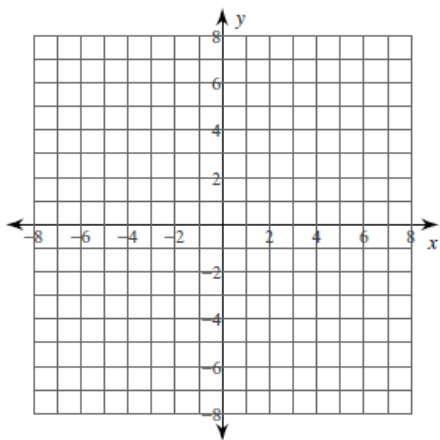
$$5) f(x) = \frac{-2x^2 + 4x + 16}{x^2 - 5x + 4}$$



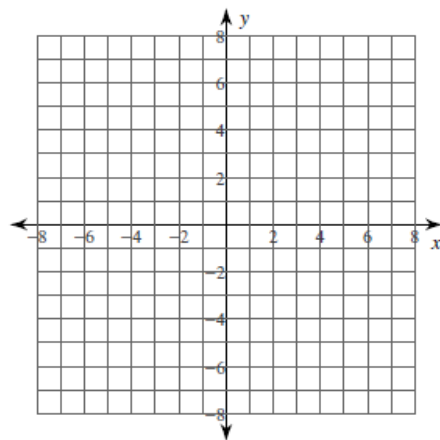
$$6) f(x) = \frac{x^2 - 3x}{2x^2 + 2x - 12}$$



$$7) f(x) = \frac{3x + 6}{x + 3}$$

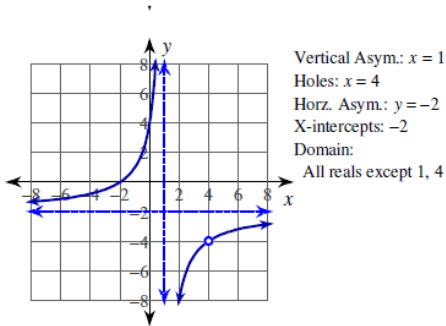


$$8) f(x) = \frac{x^2 + 5x + 4}{x^2 - 1}$$

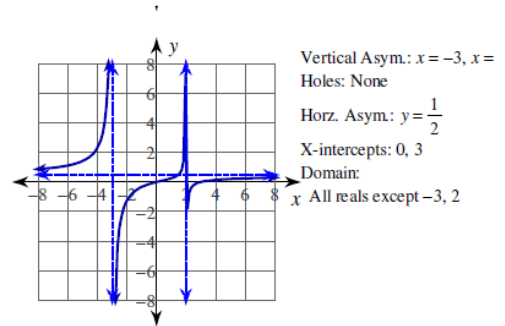


Answers

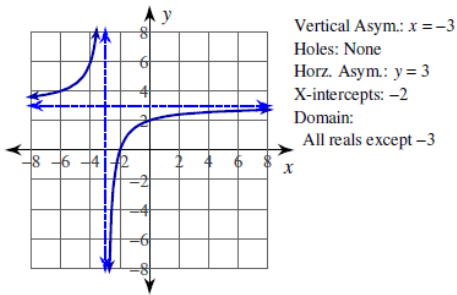
5)



6)



7)



8)

