

Graphing Rational Functions

Identify the points of discontinuity, holes, vertical asymptotes, x-intercepts, and horizontal asymptote of each.

$$1) f(x) = \frac{1}{3x^2 + 3x - 18}$$

$$2) f(x) = \frac{x-2}{x-4}$$

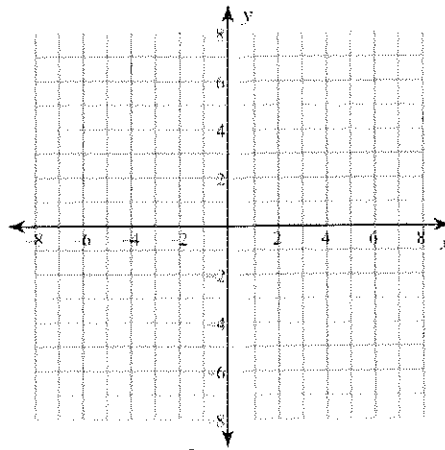
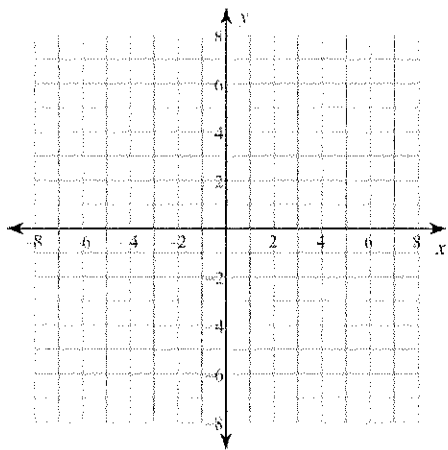
$$3) f(x) = \frac{x^3 - x^2 - 6x}{-3x^2 - 3x + 18}$$

$$4) f(x) = \frac{x^2 + x - 6}{-4x^2 - 16x - 12}$$

Identify the points of discontinuity, holes, vertical asymptotes, and horizontal asymptote of each. Then sketch the graph.

$$5) f(x) = -\frac{4}{x^2 - 3x}$$

$$6) f(x) = \frac{x-4}{-4x-16}$$



$$7) f(x) = \frac{x+4}{-2x-6}$$

$$8) f(x) = \frac{x^3 - 9x}{3x^2 - 6x - 9}$$

