

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

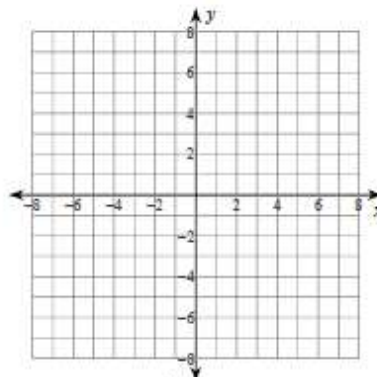
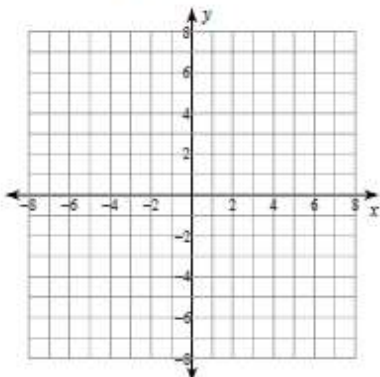
3) $f(x) = \frac{x^3 - x^2 - 6x}{-3x^2 - 3x + 18}$

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.

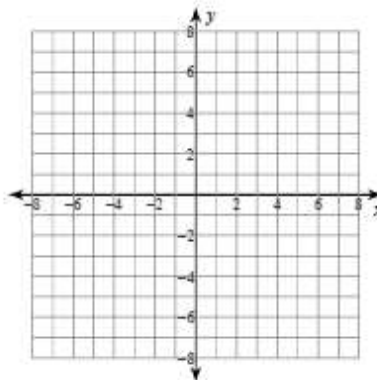
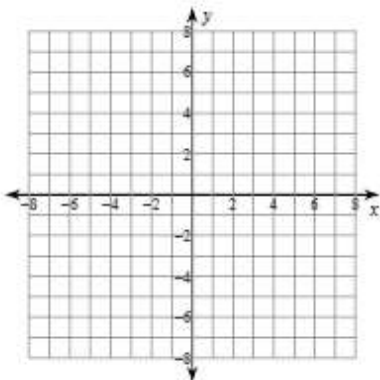
5) $f(x) = -\frac{4}{x^2 - 3x}$

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



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

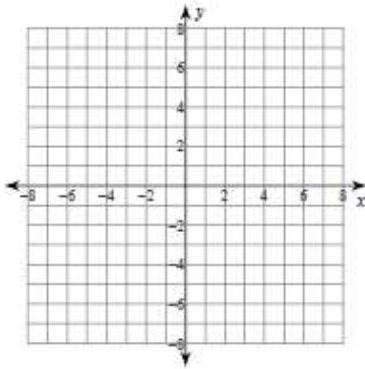
8) $f(x) = \frac{x^3 - 9x}{3x^2 - 6x - 9}$



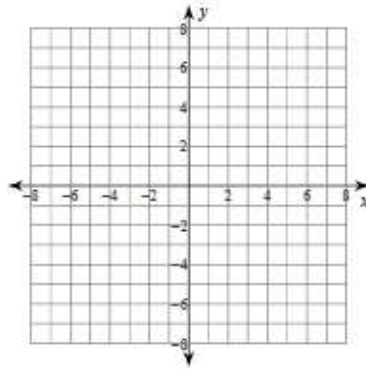
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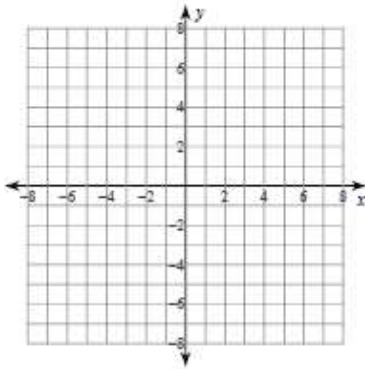
9) $f(x) = \frac{3x^2 - 12x}{x^2 - 2x - 3}$



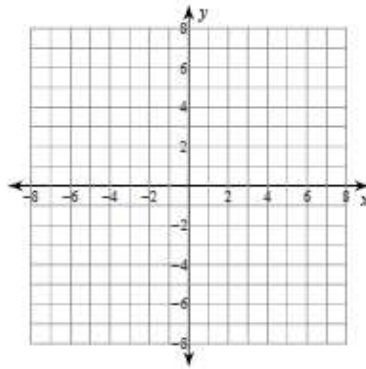
10) $f(x) = \frac{x^3 - 16x}{-4x^2 + 4x + 24}$



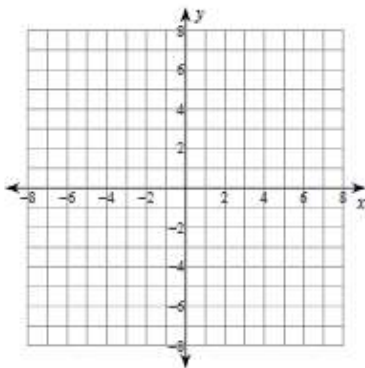
11) $f(x) = \frac{x^2 + 2x}{-4x + 8}$



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



13) $f(x) = \frac{2x^2 + 10x + 12}{x^2 + 3x + 2}$



14) $f(x) = \frac{3}{x - 2}$

