SM3 Name_____

Unit 5 Review

Identify the holes, vertical asymptotes, and horizontal asymptote of each.

1) $f(x) = \dfrac{x + 4}{-4x + 12}$

2) $f(x) = \dfrac{-2x + 4}{x^2 - 6x + 8}$

3) $f(x) = \dfrac{3}{x} + 1$

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

5) $f(x) = \dfrac{1}{x - 2} - 1$

6) $f(x) = \dfrac{2}{x - 1} + 3$

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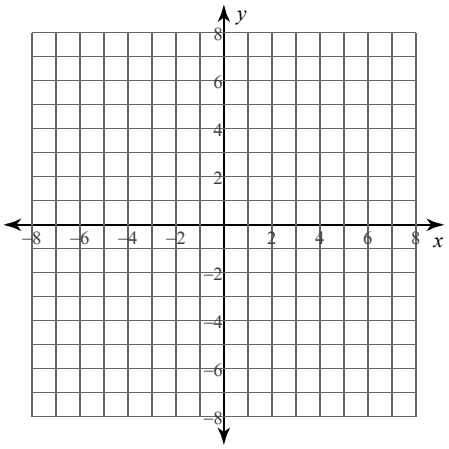
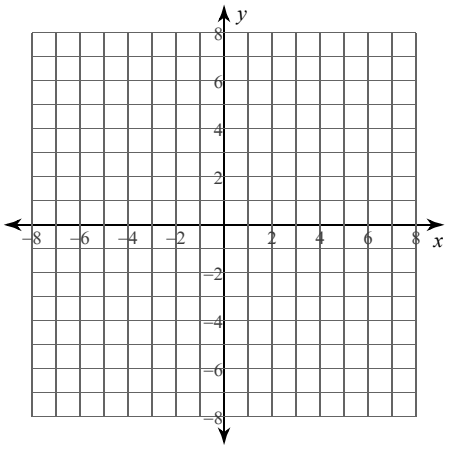
Graph the standard form function. Show vertical and horizontal asymptotes as dashed lines, mark the anchor points with dots.

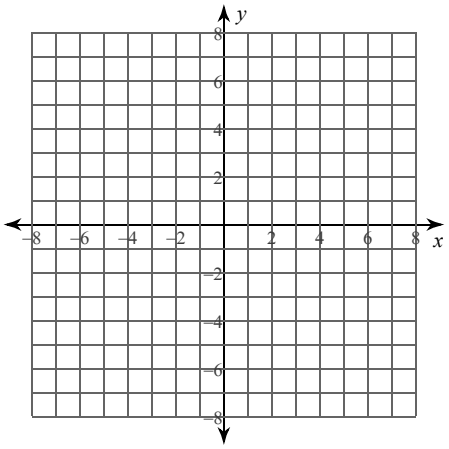
7) $f(x) = \frac{3}{x-2} - 1$



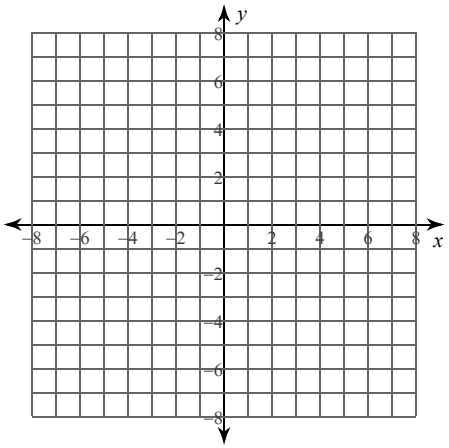
8) $f(x) = -\frac{4}{x-1}$



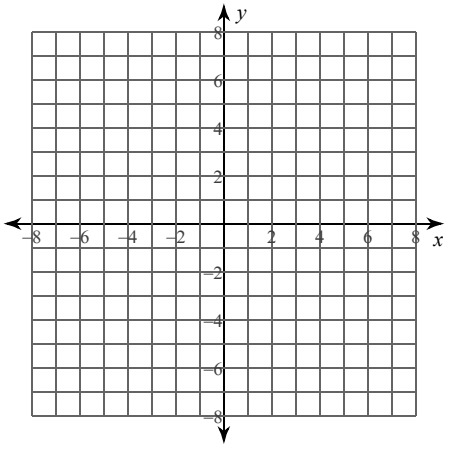
9) $f(x) = \frac{1}{x-1} - 2$



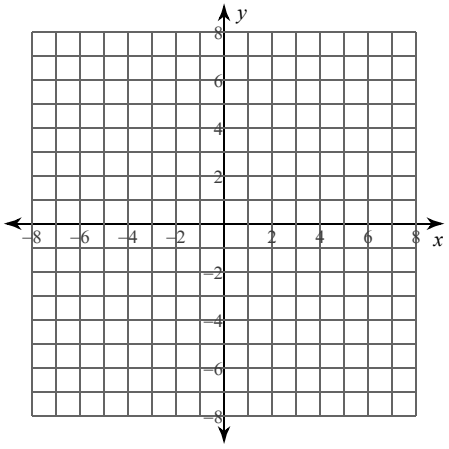
10) $f(x) = -\frac{2}{x} + 1$



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



12) $f(x) = \frac{1}{x+4} - 2$



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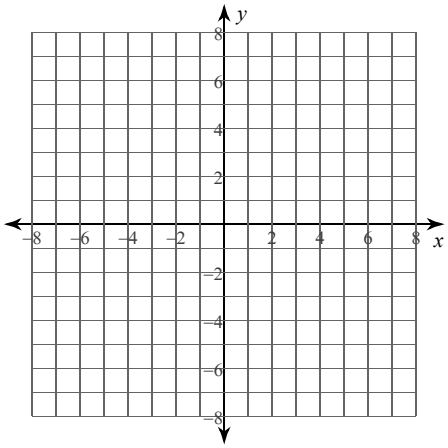
Factor to find holes if there are any, Use long division to write the function in standard form then graph each function.

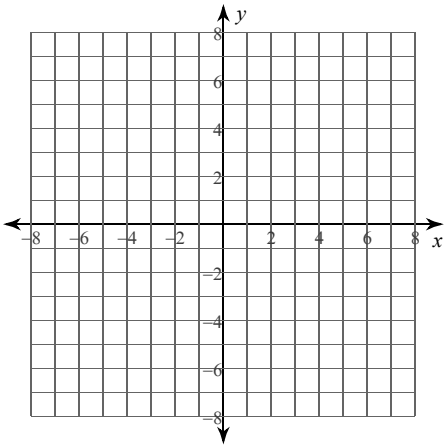
13) $f(x) = \dfrac{x^2 - 16}{x^2 + 6x + 8}$

Hole: Standard Form:



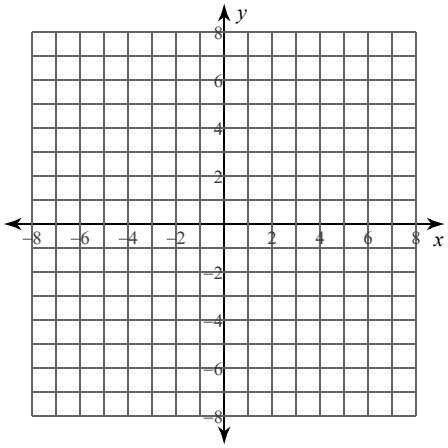
14) $g(x) = \dfrac{x + 4}{x - 1}$

Hole: Standard Form



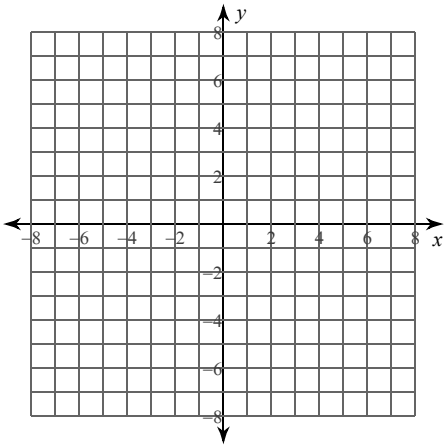
15) $f(x) = \dfrac{2x^2 - 5x - 3}{x^2 - 9}$

Hole: Standard Form:



16) $h(x) = \dfrac{2x - 3}{x - 3}$

Hole: Standard Form:



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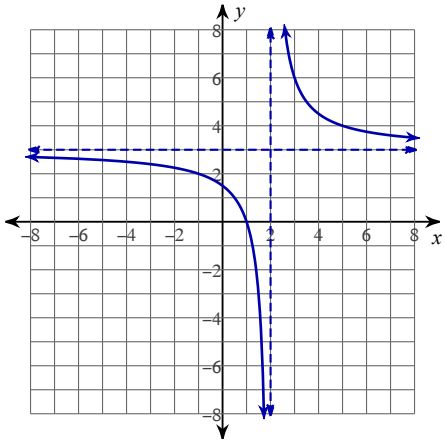
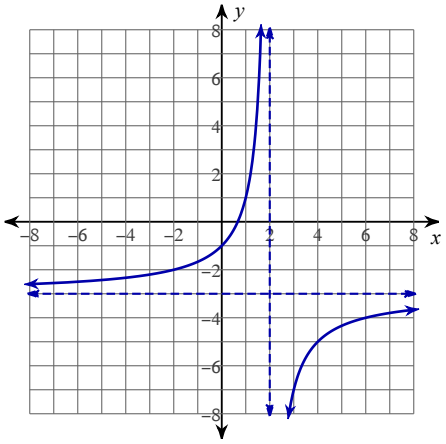
Write the equation for each graph in standard form $y = \frac{a}{x-h} + k$. Then describe the vertical asymptote and end behvior using limit notation.

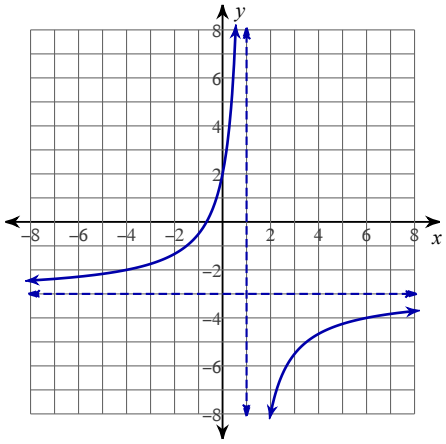
17)



18)



19)



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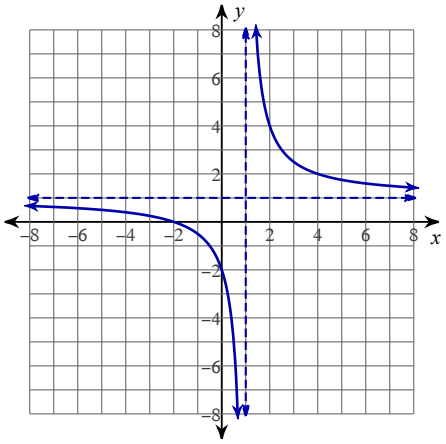
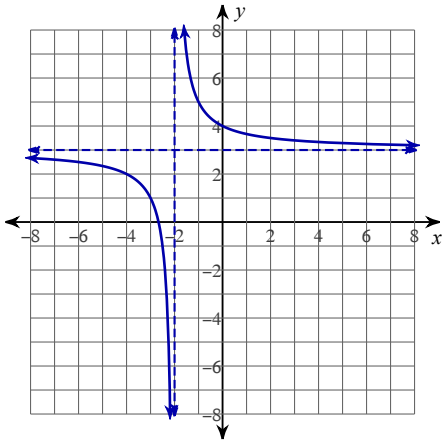


21)



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