Name: _____ Block: _____ ID: A

Review #4 Pre-Calculus 12 Chapters 9 - 10

Completion

Complete each statement.

1. The rational function $f(x) = \dfrac{1}{-17x - 17}$ has a vertical asymptote with equation _____.

2. The rational function $f(x) = \dfrac{13}{x^2 - 11}$ has a y-intercept of _____.

3. When solving the rational function $\dfrac{x^2 - 8x - 6}{-4 + 3x} = x + 2$ graphically, the single function that could be graphed is _____.

4. If $f(x)$ is a quadratic function with positive coefficients and $g(x)$ is a linear function with positive coefficients, then $f(x) + g(x)$ is a _____ function.

5. If $f(x)$ is a linear function and $g(x)$ is a linear function, then $f(x)g(x)$ is a _____ function.

6. If $f(x) = \sqrt{x - 4}$ and $g(x) = x^2 - 3$, then the domain of the function $h(x) = f(g(x))$ is _____.

7. If $h(x) = f(g(x))$, and $h(x) = 7\cot^2 x$, then $f(x) =$ _____ and $g(x) =$ _____.

Matching

Use the following information to answer the matching questions:

$f(x) = x^2 + x - 6$

$g(x) = 2x + 6$

Match each function with its corresponding graph.

A. $x^2 + 3x$

B. $2x^3 + 8x^2 - 6x - 36$

C. $\dfrac{x - 2}{2}$

D. $2x^2 + 5x + 3$

E. $x^2 - x - 12$

F. $2x^2 + 2x - 6$

____ 1. $h(x) = f(x) + g(x)$

____ 2. $h(x) = f(x) - g(x)$

____ 3. $h(x) = f(x)g(x)$

____ 4. $h(x) = \dfrac{f(x)}{g(x)}$

____ 5. $h(x) = g(f(x))$

Match each graph of a rational function with its equation.

A. $f(x) = \dfrac{9}{x^2 - 4}$

B. $f(x) = \dfrac{1}{x+4}$

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

D. $f(x) = \dfrac{1}{x^2 + 4}$

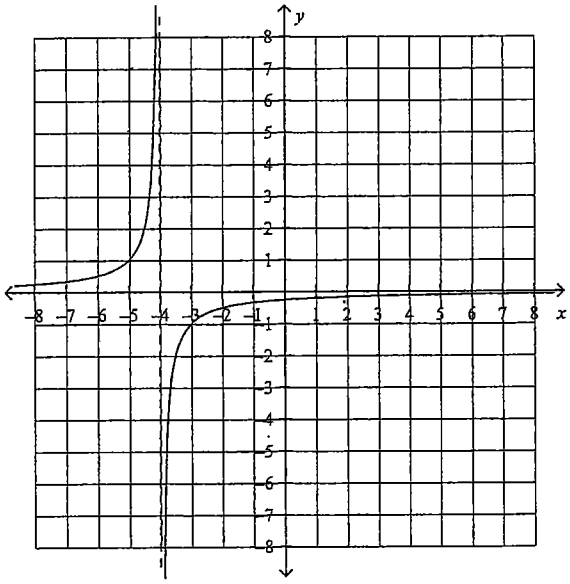
E. $f(x) = \dfrac{-3x - 9}{x+4}$

F. $f(x) = \dfrac{9}{x^2 + 6x + 8}$

G. $f(x) = \dfrac{1}{(x+4)^2}$

H. $f(x) = \dfrac{x}{-3(x+4)}$

____ 11.



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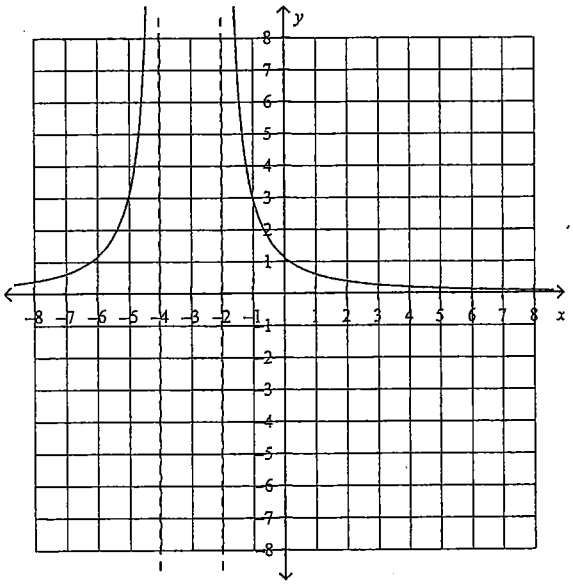

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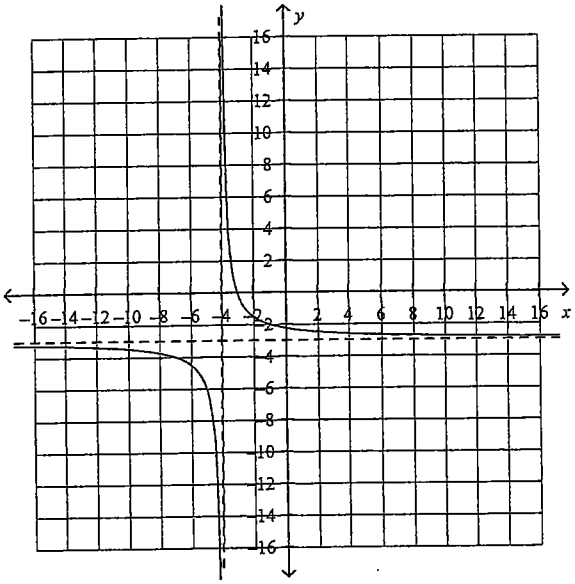

____ 14.