

**Algebra 2 - Chapter 5 Test - Mr. Lee****Perform the indicated operation(s) and simplify.**

\_\_\_\_\_ 1.  $\frac{x-7}{-6x} + \frac{2x+7}{-6x}$

a.  $-1$

c.  $-\frac{x}{2}$

b.  $\frac{x-2x}{-6x}$

d.  $-\frac{1}{2}$

\_\_\_\_\_ 2.  $\frac{-2x+3}{15x} + \frac{-x-3}{15x}$

a.  $-\frac{1}{5}$

b.  $-\frac{x}{5}$

c.  $-\frac{2}{5}$

d.  $\frac{-2x-x}{15x}$

\_\_\_\_\_ 3.  $\frac{8}{x+4} + \frac{3}{x-4}$

a.  $\frac{11x-20}{x^2-16}$

b.  $\frac{11}{x^2-16}$

c.  $\frac{11x-20}{11}$

d.  $\frac{11}{x+4}$

\_\_\_\_\_ 4.  $\frac{6}{x+4} + \frac{5}{x-4}$

a.  $\frac{11}{x+4}$

b.  $\frac{11x-4}{x^2-16}$

c.  $\frac{11}{x-4}$

d.  $\frac{11}{x^2-16}$

**Multiply the expressions. Simplify the result.**

\_\_\_\_\_ 5.  $\frac{d^2}{ef} \times \frac{5e^5f}{4d}$

a.  $\frac{4d^3}{5e^6f^2}$

b.  $\frac{5}{4}$

c.  $\frac{5d^2e^5}{4def}$

d.  $\frac{5de^4}{4}$

\_\_\_\_\_ 6.  $\frac{n^2-9}{n+3} \times \frac{n}{2n-6}$

a.  $2n$

b.  $\frac{1}{2n}$

c.  $\frac{n}{2}$

d.  $\frac{n+3}{n-3}$

\_\_\_\_\_ 7.  $(x-4) \times \left( \frac{x-9}{x^2-16} \right)$

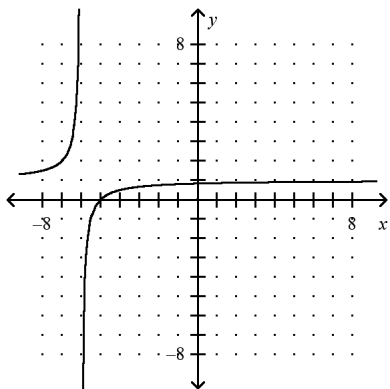
a.  $\frac{x-9}{(x-4)(x^2-16)}$

c.  $\frac{x-9}{x-4}$

b.  $\frac{x-9}{x+4}$

d.  $\frac{x+9}{x+4}$

\_\_\_\_\_ 8. Which function matches the graph?



a.  $f(x) = \frac{x+2}{x+4}$

c.  $f(x) = \frac{x+5}{x+6}$

b.  $f(x) = \frac{x+4}{x+2}$

d.  $f(x) = \frac{x+6}{x+5}$

**Divide the expressions. Simplify the result.**

\_\_\_\_\_ 9.  $\frac{x^2 - 36}{x+5} \div (x+6)$

a.  $\frac{(x+6)(x-6)}{x+5}$

b.  $\frac{x+6}{x+5}$

c.  $\frac{x+5}{x-6}$

d.  $\frac{x-6}{x+5}$

\_\_\_\_\_ 10.  $\frac{x^2 + 12x + 35}{x^2 - 25} \div \frac{x+7}{x-7}$

a.  $\frac{12x+7}{5}$

b.  $\frac{x+5}{x-7}$

c.  $\frac{x-10}{x-5}$

d.  $\frac{x-7}{x-5}$

**Identify the vertical asymptote(s) of the graph of the function.**

\_\_\_\_\_ 11.  $f(x) = \frac{4x+7}{x^2 + 6x+8}$

a.  $x = -4, x = -2$

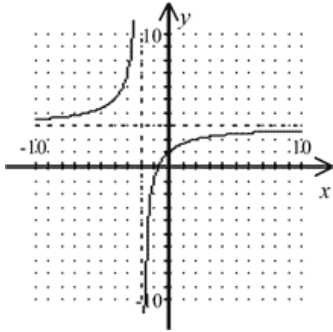
c.  $x = -4, x = -2, x = -1$

b.  $x = -4, x = -1$

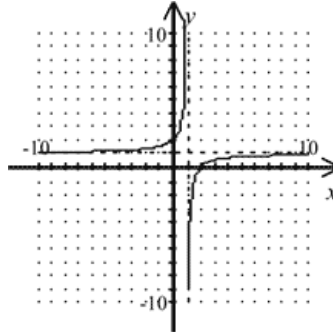
d. none

\_\_\_\_\_ 12. Which is the graph of  $f(x) = \frac{x-2}{x-1}$ ?

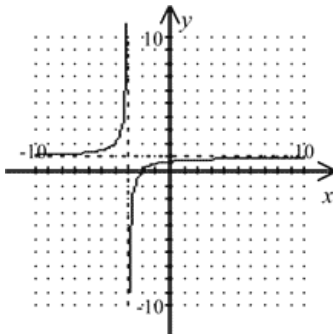
a.



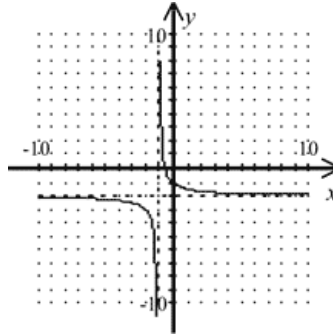
c.



b.



d.



**Simplify the rational expression, if possible.**

\_\_\_\_\_ 13.  $\frac{n^2 + 2n - 24}{n^2 - 11n + 28}$

a.  $\frac{n+6}{n-7}$

b.  $\frac{n+6}{n-4}$

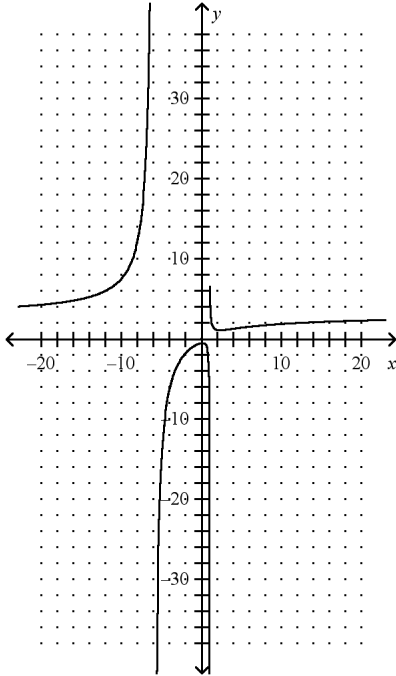
c.  $\frac{n+6}{n+7}$

d.  $\frac{n-4}{n-7}$

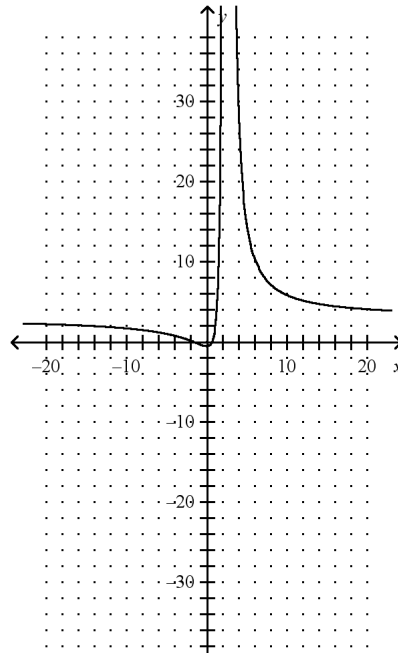
**Graph the function.**

\_\_\_\_\_ 14.  $f(x) = \frac{3x^2 + 3x - 3}{x^2 - 5x + 6}$

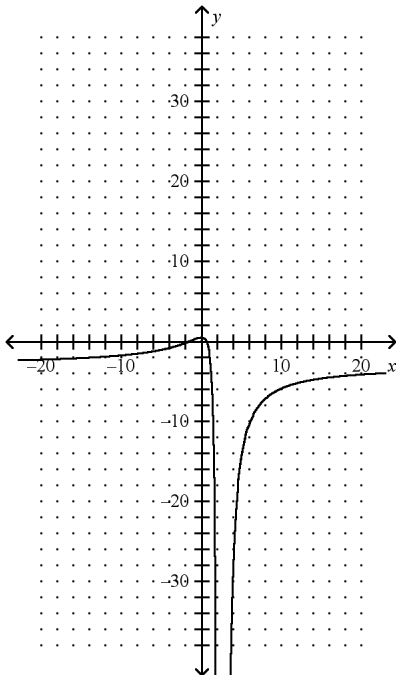
a.



c.



b.



d.

