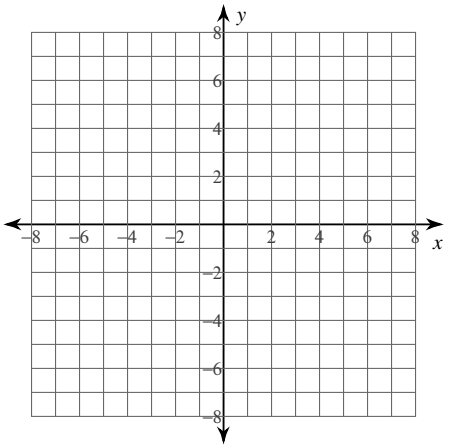
Algebra 2 Name_____

5A-5D Review - SHOW ALL WORK

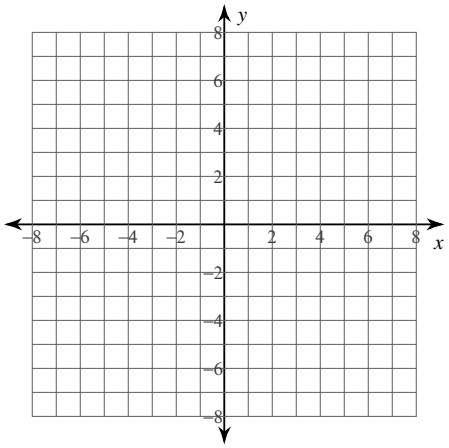
Date_____ Period____

Graph and state the domain, range, intercepts, asymptotes, and end behavior.

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



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



Simplify each expression.

3) $\dfrac{7}{6k} \cdot \dfrac{2k^2}{3}$

4) $\dfrac{4}{3m^3 - 9m^2} - \dfrac{m+6}{3m^3 - 9m^2}$

5) $\dfrac{b+7}{b^2 + 3b - 28} \cdot \dfrac{b-4}{b-9}$

6) $\dfrac{10}{r+4} \cdot \dfrac{r+4}{3r^2 - 6r}$

7) $\dfrac{3}{x-4} + \dfrac{5}{x+3}$

8) $\dfrac{x+4y}{8x^3y^2} - \dfrac{x-2y}{8x^3y^2}$

9) $\dfrac{2k+4}{k^2+10k+16}$

10) $\dfrac{x+4y}{6y^2} - \dfrac{5y}{4y^3}$

11) $\dfrac{3}{a+5} + \dfrac{3a}{2a+2}$

12) $\dfrac{5v}{6} - \dfrac{2}{2v+5}$

13) $\dfrac{6}{3} - \dfrac{x+3}{3x+12}$

14) $\dfrac{6x}{3x^2-12x} + \dfrac{5}{3}$

15) $\dfrac{1}{n+9} \div \dfrac{4}{n^2+2n-63}$

16) $\dfrac{9x^2-90x}{2} \div (x-10)$

17) $\dfrac{2}{x-4} + \dfrac{6x}{x+2}$

18) $\dfrac{24n+24}{25n^4} \cdot \dfrac{2n+7}{6n^2+27n+21}$

19) $\dfrac{10}{5p+35} \cdot \dfrac{7p^2+63p-70}{70-70p}$

20) Write the equation of a rational function that has a horizontal asymptote at -4 and a vertical asymtote at 5.

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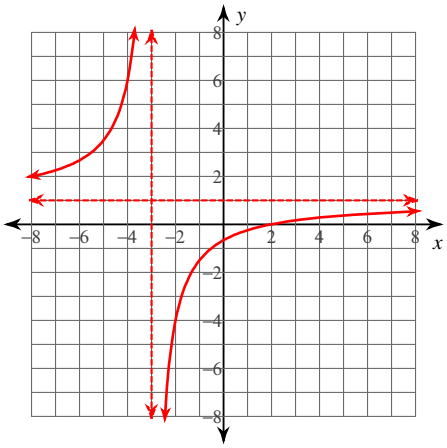
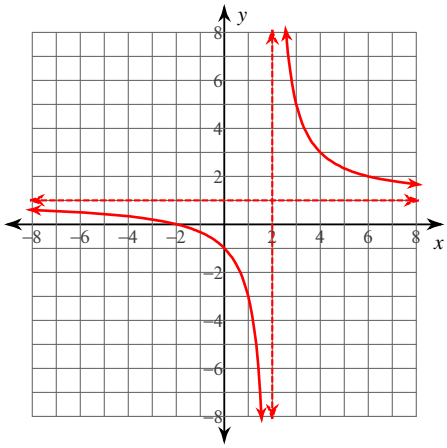
1) $f(x) = \dfrac{x-2}{x+3}$



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



Simplify each expression.

3) $\dfrac{7}{6k} \cdot \dfrac{2k^2}{3}$

$\dfrac{7k}{9}$

4) $\dfrac{4}{3m^3 - 9m^2} - \dfrac{m+6}{3m^3 - 9m^2}$

$\dfrac{-2-m}{3m^3 - 9m^2}$

5) $\dfrac{b+7}{b^2 + 3b - 28} \cdot \dfrac{b-4}{b-9}$

$\dfrac{1}{b-9}$

6) $\dfrac{10}{r+4} \cdot \dfrac{r+4}{3r^2 - 6r}$

$\dfrac{10}{3r(r-2)}$

7) $\dfrac{3}{x-4} + \dfrac{5}{x+3}$

$\dfrac{8x-11}{(x-4)(x+3)}$

8) $\dfrac{x+4y}{8x^3y^2} - \dfrac{x-2y}{8x^3y^2}$

$\dfrac{3}{4x^3y}$

9) $\dfrac{2k+4}{k^2+10k+16}$

$\dfrac{2}{k+8}$

10) $\dfrac{x+4y}{6y^2} - \dfrac{5y}{4y^3}$

$\dfrac{2x+8y-15}{12y^2}$

11) $\dfrac{3}{a+5} + \dfrac{3a}{2a+2}$

$\dfrac{21a+6+3a^2}{2(a+5)(a+1)}$

12) $\dfrac{5v}{6} - \dfrac{2}{2v+5}$

$\dfrac{10v^2+25v-12}{6(2v+5)}$

13) $\dfrac{6}{3} - \dfrac{x+3}{3x+12}$

$\dfrac{5x+21}{3(x+4)}$

14) $\dfrac{6x}{3x^2-12x} + \dfrac{5}{3}$

$\dfrac{-14+5x}{3(x-4)}$

15) $\dfrac{1}{n+9} \div \dfrac{4}{n^2+2n-63}$

$\dfrac{n-7}{4}$

16) $\dfrac{9x^2-90x}{2} \div (x-10)$

$\dfrac{9x}{2}$

17) $\dfrac{2}{x-4} + \dfrac{6x}{x+2}$

$\dfrac{-22x+4+6x^2}{(x-4)(x+2)}$

18) $\dfrac{24n+24}{25n^4} \cdot \dfrac{2n+7}{6n^2+27n+21}$

$\dfrac{8}{25n^4}$

19) $\dfrac{10}{5p+35} \cdot \dfrac{7p^2+63p-70}{70-70p}$

$-\dfrac{(p+10)}{5(p+7)}$

20) Write the equation of a rational function that has a horizontal asymptote at -4 and a vertical asymtote at 5.

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