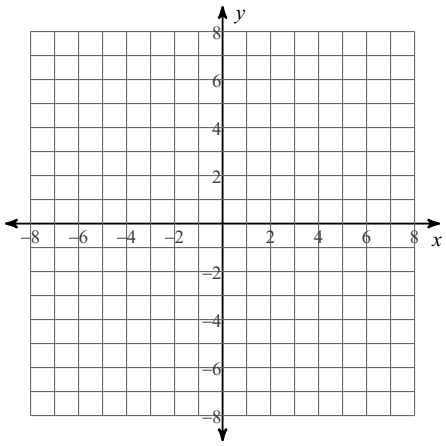
Trigonometry, Rationals, Sequences/Series PART 2

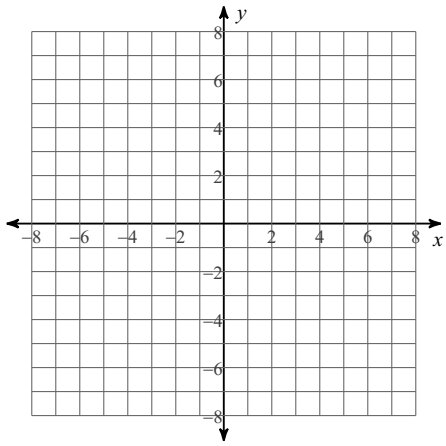
Date_____ Period____

Graph each function.

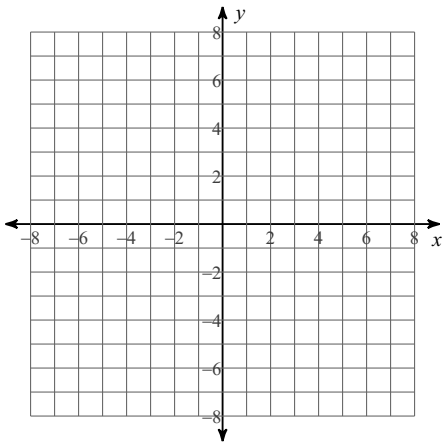
1) $f(x) = \dfrac{1}{4x - 16}$



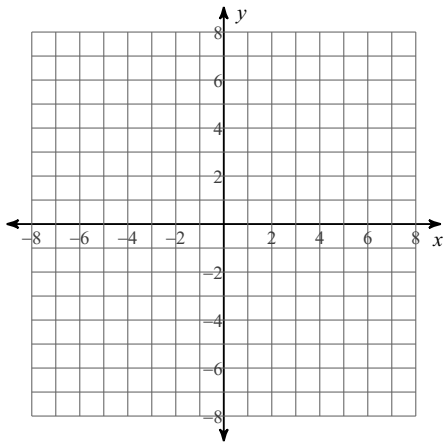
2) $f(x) = \dfrac{x^3 + 4x^2 + 3x}{4x^2 + 16x}$



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



4) $f(x) = \dfrac{x^3 + x^2 - 12x}{3x^2 - 27}$



Simplify each and state the excluded values.

5) $\frac{4x^2 + 6x}{16x^3}$

6) $\frac{49x^2 - 42x}{70x^3}$

7) $\frac{k + 2}{k^2 + 3k + 2}$

8) $\frac{n - 6}{n^2 - 5n - 6}$

Simplify each expression.

9) $\frac{35n - 49}{6} \cdot \frac{4}{35n - 49}$

10) $\frac{a + 8}{a^2 - 64} \cdot \frac{48a - 6a^2}{a + 10}$

11) $\frac{1}{72n^2} \cdot \frac{n^2 + 5n - 50}{n - 5}$

12) $\frac{10b^3 - 20b^2}{b - 6} \cdot \frac{1}{10b^2}$

13) $\frac{6a}{a + 6} - \frac{6}{a - 5}$

14) $\frac{3k}{k + 2} + \frac{5k}{2k - 4}$

15) $\frac{5}{r+1} + \frac{2}{r+5}$

16) $\frac{n-1}{n-6} - \frac{2}{6n^3}$

17) $\frac{3}{\frac{3}{5x} + \frac{5}{9}}$

18) $\frac{\frac{1}{3} + \frac{9}{2a-5}}{2a-5}$

19) $\frac{\frac{5}{x-1} + \frac{x}{25}}{\frac{5}{x^2}}$

20) $\frac{\frac{x-2}{2} + \frac{1}{2}}{\frac{4}{x-2}}$

Solve each equation. Remember to check for extraneous solutions.

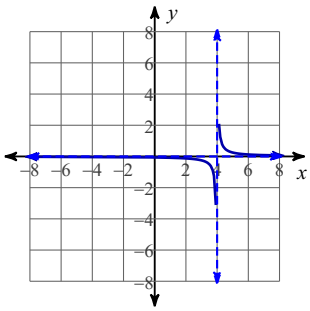
21) $\frac{1}{x} + 1 = \frac{3}{x}$

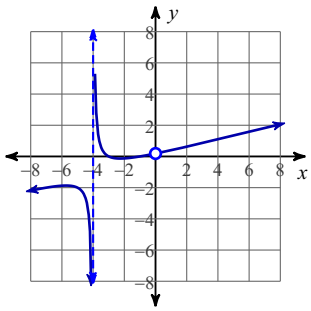
22) $\frac{1}{3n} = \frac{n-3}{n^2} + \frac{4}{3n}$

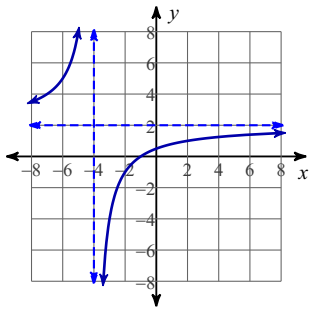
23) $\frac{4}{b} = \frac{1}{5b} + \frac{3}{5}$

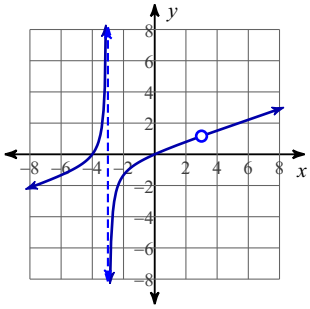
24) $\frac{6}{5x^2} = \frac{1}{x} + \frac{1}{5x^2}$

Answers to Trigonometry, Rationals, Sequences/Series PART 2 (ID: 1)

1) 

2) 

3) 

4) 

5) $\frac{2x+3}{8x^2}$; $\{0\}$

6) $\frac{7x-6}{10x^2}$; $\{0\}$

7) $\frac{1}{k+1}$; $\{-2, -1\}$

8) $\frac{1}{n+1}$; $\{6, -1\}$

9) $\frac{2}{3}$

10) $-\frac{6a}{a+10}$

11) $\frac{n+10}{72n^2}$

12) $\frac{b-2}{b-6}$

13) $\frac{6a^2-36a-36}{(a-5)(a+6)}$

14) $\frac{11k^2-2k}{2(k-2)(k+2)}$

15) $\frac{7r+27}{(r+5)(r+1)}$

16) $\frac{3n^4-3n^3-n+6}{3n^3(n-6)}$

17) $\frac{135x}{27+25x}$

18) $\frac{2a+22}{12a^2-60a+75}$

19) $\frac{125x^2+x^4-x^3}{125x-125}$

20) $\frac{x^2-3x+2}{8}$

21) $\{2\}$

22) $\left\{\frac{3}{2}\right\}$

23) $\left\{\frac{19}{3}\right\}$

24) $\{1\}$