

Name: _____ Period: _____ Date: _____

Graphing Rational Functions Assignment

Find $f(x)$ given that x is the value below.

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

1. $x = 2$

3. $x = 4$

3. $x = -3$

4. $x = -5$

$$f(x) = \frac{6x-1}{3}$$

5. $x = 1$

6. $x = 2$

7. $x = 4$

8. $x = -2$

Name: _____ Period: _____ Date: _____

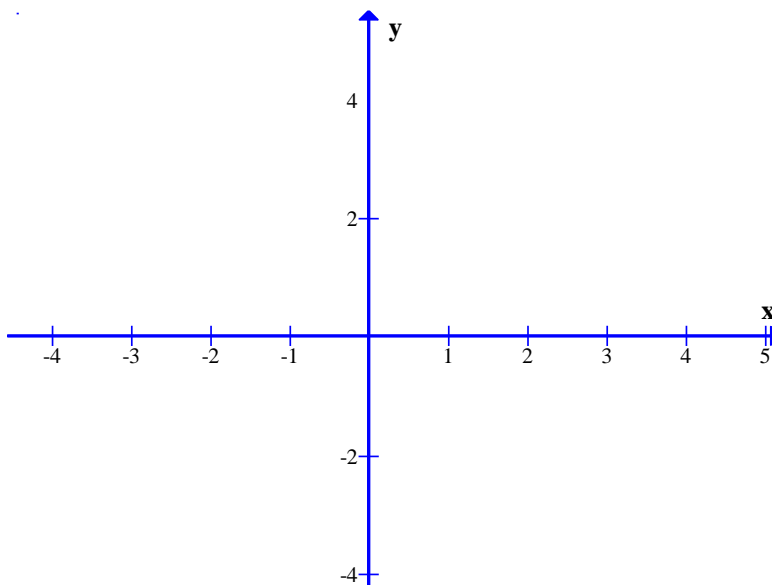
Graphing Rational Functions Assignment

Draw a graph of the following rational function by completing the table of values.

9. Complete the table of values for $y = \frac{3x+1}{2}$.

x	-2	-1	0	1	2
y					

10. Draw the graph of $y = \frac{3x+1}{2}$.



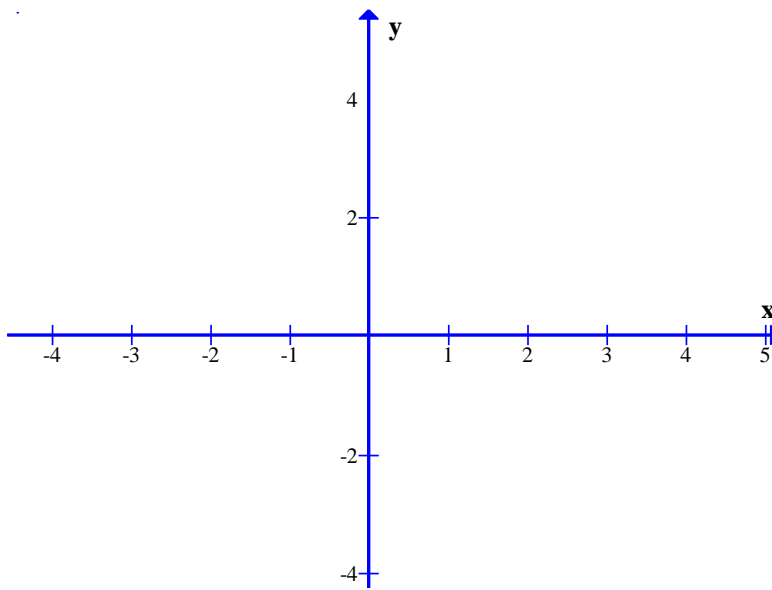
Name: _____ Period: _____ Date: _____

Graphing Rational Functions Assignment

11. Complete the table of values for $y = \frac{4x-1}{3}$.

x	-2	-1	0	1	2
y					

12. Draw the graph of $y = \frac{4x-1}{3}$.



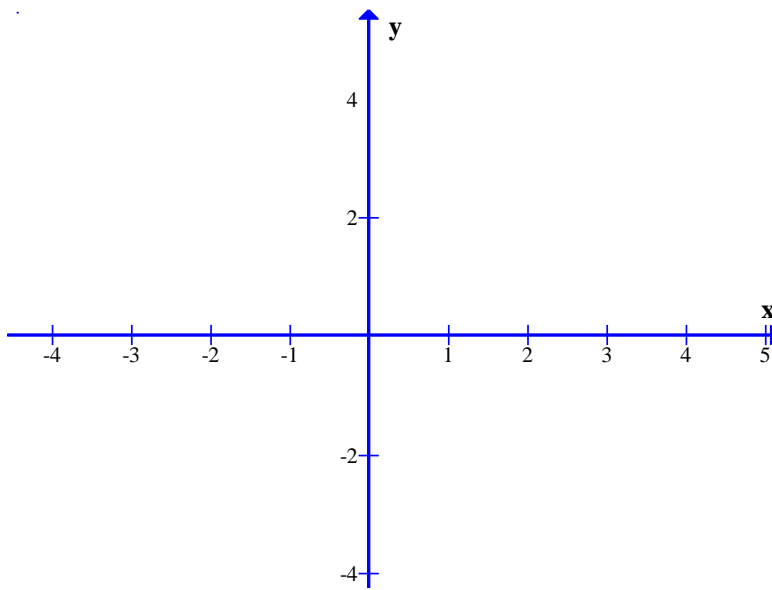
Name: _____ Period: _____ Date: _____

Graphing Rational Functions Assignment

13. Complete the table of values for $y = -\frac{2}{3}x + 1$.

x	-2	-1	0	1	2
y					

14. Draw the graph of $y = -\frac{2}{3}x + 1$.

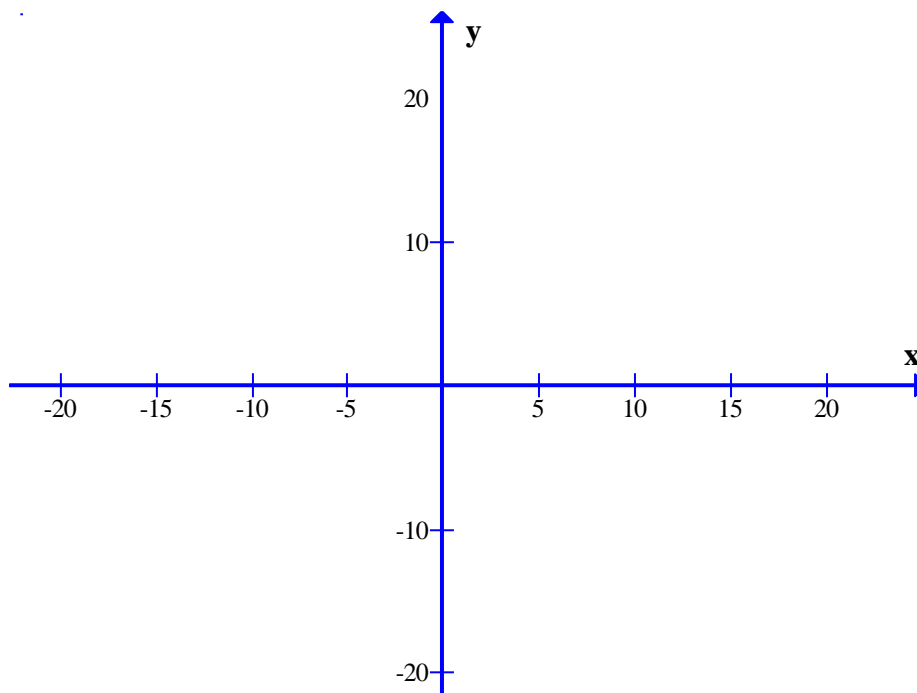


Graphing Rational Functions Assignment

Draw the graph of the following rational function using x and y intercept.

15. Find the x and y intercept of $y = \frac{x+1}{x-2}$.

16. Draw the graph of $y = \frac{x+1}{x-2}$.

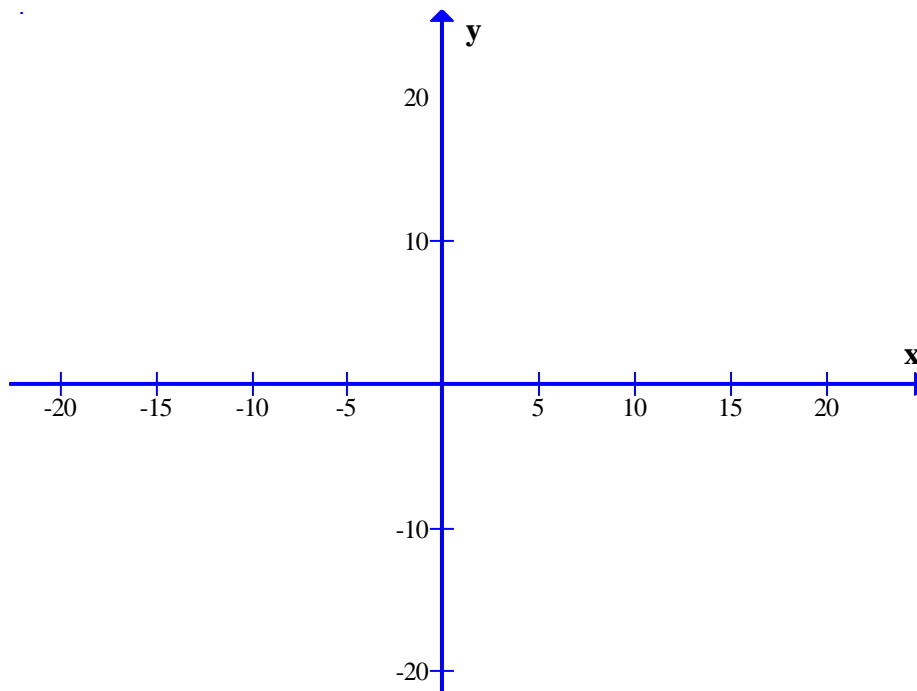


Name: _____ Period: _____ Date: _____

Graphing Rational Functions Assignment

17. Find the x and y intercept of $y = \frac{x-2}{x+4}$.

18. Draw the graph of $y = \frac{x-2}{x+4}$.



Name: _____ Period: _____ Date: _____

Graphing Rational Functions Assignment

Find the domain and range of the following rational function.

19. Graph of $f(x) = \frac{5}{3}x + 7$.

$$f(x) = \frac{5}{3}x + 7$$

20. Graph of $f(x) = \frac{2x+1}{2} + 3$.

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

Graphing Rational Functions Assignment

Answer:

Find $f(x)$ given that x is the value below.

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

1. $x = 2$

Solution:

$$f(2) = \frac{3(2)+2}{2+1} = \frac{8}{3}$$

3. $x = -3$

Solution:

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

3. $x = 4$

Solution:

$$f(4) = \frac{3(4)+2}{4+1} = \frac{14}{5}$$

4. $x = -5$

Solution:

$$f(-5) = \frac{3(-5)+2}{-5+1} = \frac{-13}{-4} = \frac{13}{4}$$

$$f(x) = \frac{6x-1}{3}$$

5. $x = 1$

Solution:

$$f(1) = \frac{6(1)-1}{3} = \frac{5}{3}$$

7. $x = 4$

Solution:

$$f(4) = \frac{6(4)-1}{3} = \frac{23}{3}$$

6. $x = 2$

Solution:

$$f(2) = \frac{6(2)-1}{3} = \frac{11}{3}$$

8. $x = -2$

Solution:

$$f(-2) = \frac{6(-2)-1}{3} = \frac{-13}{3}$$

Draw a graph of the following rational function by completing the table of values.

9. Complete the table of values for $y = \frac{3x+1}{2}$.

x	-2	-1	0	1	2
y					

Solution:

$$f(-2) = \frac{3(-2)+1}{2} = -\frac{5}{2}$$

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

$$f(0) = \frac{3(0)+1}{2} = \frac{1}{2}$$

$$f(1) = \frac{3(1)+1}{2} = 2$$

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

Graphing Rational Functions Assignment

10. Draw the graph of $y = \frac{3x+1}{2}$.

$$f(x) = (3x+1)/2$$

11. Complete the table of values for $y = \frac{4x-1}{3}$.

X	-2	-1	0	1	2
y					

Solution:

$$f(-2) = \frac{4(-2)-1}{3} = \frac{-9}{3} = -3$$

$$f(-1) = \frac{4(-1)-1}{3} = \frac{-5}{3}$$

$$f(0) = \frac{4(0)-1}{3} = -\frac{1}{3}$$

$$f(1) = \frac{4(1)-1}{3} = \frac{3}{3} = 1$$

$$f(2) = \frac{4(2)-1}{3} = \frac{7}{3}$$

12. Draw the graph of $y = \frac{4x-1}{3}$.

$$f(x) = (4x-1)/3$$

Graphing Rational Functions Assignment

13. Complete the table of values for $y = -\frac{2}{3}x + 1$.

X	-2	-1	0	1	2
y					

Solution:

$$f(-2) = -\frac{2}{3}(-2) + 1 = \frac{4}{3} + 1 = \frac{7}{3}$$

$$f(-1) = -\frac{2}{3}(-1) + 1 = \frac{2}{3} + 1 = \frac{5}{3}$$

$$f(0) = -\frac{2}{3}(0) + 1 = 1$$

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

$$f(2) = -\frac{2}{3}(2) + 1 = -\frac{4}{3} + 1 = -\frac{1}{3}$$

14. Draw the graph of $y = -\frac{2}{3}x + 1$.

$$f(x) = (-2/3)x + 1$$

Draw the graph of the following rational function using x and y intercept.

15. Find the x and y intercept of $y = \frac{x+1}{x-2}$.

Solution:

Y- Intercept

$$y = \frac{0+1}{0-2} = -\frac{1}{2}$$

X-intercept

$$x+1=0 \quad x=-1$$

Vertical Asymptotes

$$x-2=0 \quad x=2$$

Horizontal Asymptote

Graphing Rational Functions Assignment

$$a=1, b=1 \quad y = \frac{1}{1} = 1$$

16. Draw the graph of $y = \frac{x+1}{x-2}$.

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

17. Find the x and y intercept of $y = \frac{x-2}{x+4}$.

Solution:

Y -Intercept

$$y = \frac{0-2}{0+4} = -\frac{1}{2}$$

X- Intercept

$$x-2=0 \quad x=2$$

Vertical Asymptote

$$x+4=0 \quad x=-4$$

Horizontal Asymptote

$$y = 1/1 = 1$$

18. Draw the graph of $y = \frac{x-2}{x+4}$.

Graphing Rational Functions Assignment

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

Find the domain and range of the following rational function.

19. Graph of $f(x) = \frac{5}{3}x + 7$.

$$f(x) = \frac{5}{3}x + 7$$

$$\text{Domain: } \{-\infty < 0 < \infty\}$$

$$\text{Range: } \{\dots\dots 8\} \cup \{6\dots\dots\}$$

20. Graph of $f(x) = \frac{2x+1}{2} + 3$.

Name: _____ Period: _____ Date: _____

Graphing Rational Functions Assignment

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

Domain : all real numbers

Range : all real numbers