

① Use the "yTg" method and
graph: $\frac{1}{2}x + \frac{1}{3}y = 3$

NOTE: This problem is great sign rule,
fraction rule, solve for y, and
graphing practice! (all skills needed
for Exam 2)

TIP: Use A full size sheet of
graph paper - it makes the work
easier and much, much neater.

• Homework review - Pg. 229/230 # 17-24
29-34

• Function Practice

GRAPH: $\frac{1}{2}x + \frac{1}{3}y = 3$

$-\frac{1}{2}x$

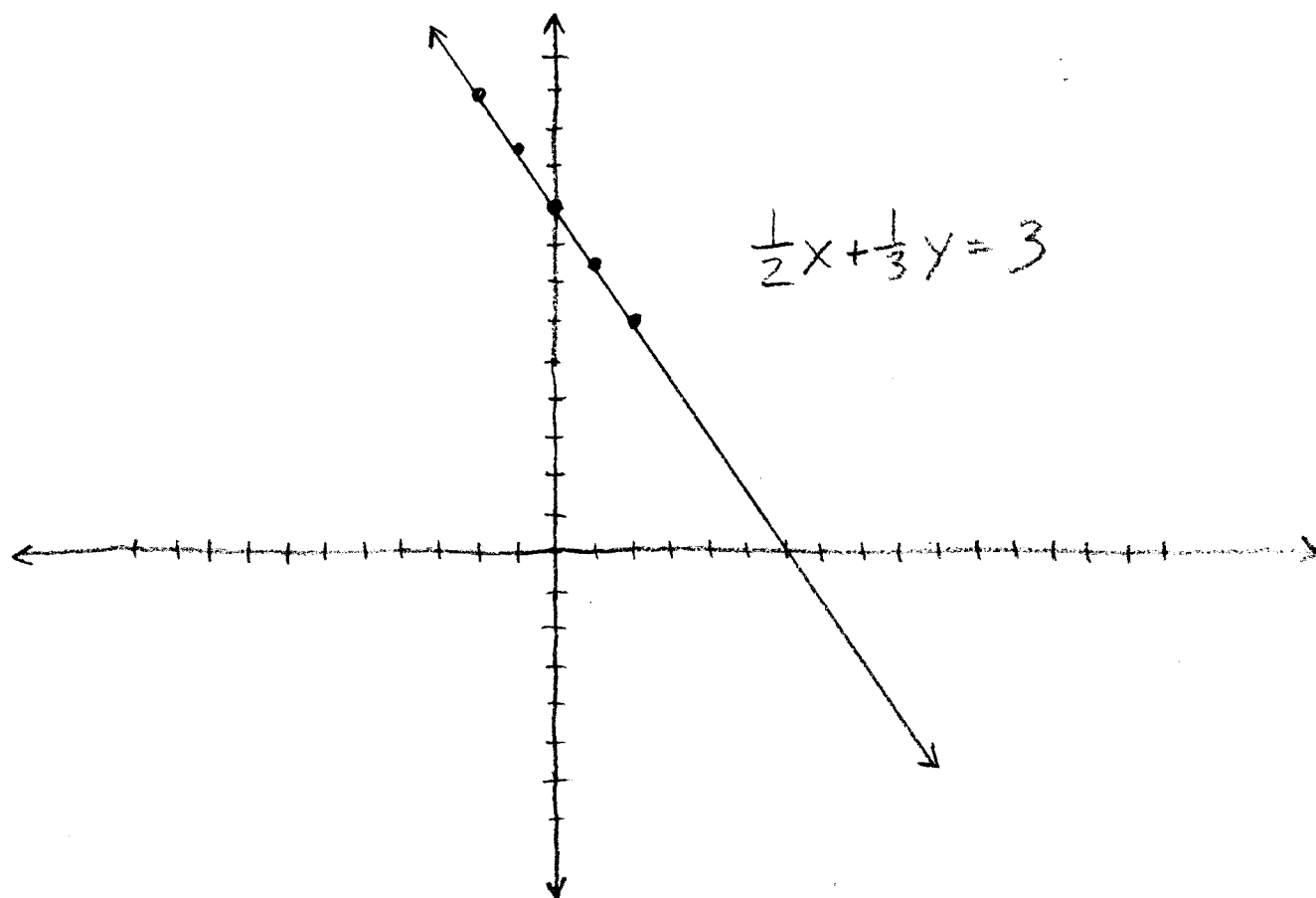
$-\frac{1}{2}x$

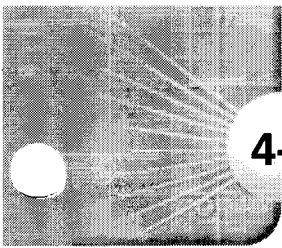
$3\left(\frac{1}{3}y\right) = \left(-\frac{1}{2}x + 3\right)3$

$y = -\frac{3}{2}x + 9$

Bell
Exercise
Solution

X	Y = $-\frac{3}{2}x + 9$
-2	$-\frac{3}{2}\left(-\frac{2}{1}\right) + 9 = 3 + 9 = 12$
-1	$-\frac{3}{2}(-1) + \frac{18}{2} = \frac{21}{2} = 10\frac{1}{2}$
0	$-\frac{3}{2}(0) + 9 = 9$
1	$-\frac{3}{2}(1) + \frac{18}{2} = \frac{15}{2} = 7\frac{1}{2}$
2	$-\frac{3}{2}(2) + 9 = 6$

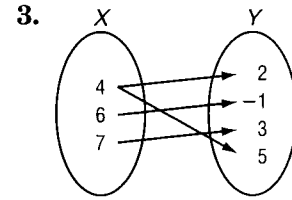
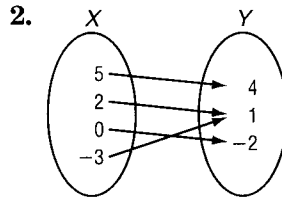
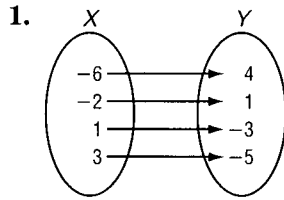




4-6 Skills Practice

Functions

Determine whether each relation is a function.



4.

x	y
4	-5
-1	-10
0	-9
1	-7
9	1

5.

x	y
2	7
5	-3
3	5
-4	-2
5	2

6.

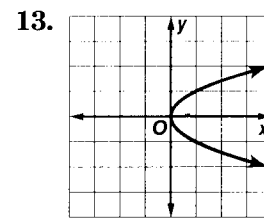
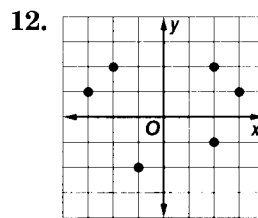
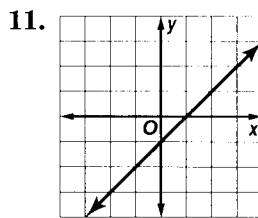
x	y
3	7
-1	1
1	0
3	5
7	3

7. $\{(2, 5), (4, -2), (3, 3), (5, 4), (-2, 5)\}$

8. $\{(6, -1), (-4, 2), (5, 2), (4, 6), (6, 5)\}$

9. $y = 2x - 5$

10. $y = 11$



If $f(x) = 3x + 2$ and $g(x) = x^2 - x$, find each value.

14. $f(4)$

15. $f(8)$

16. $f(-2)$

17. $g(2)$

18. $g(-3)$

19. $g(-6)$

20. $f(2) + 1$

21. $f(1) - 1$

22. $g(2) - 2$

23. $g(-1) + 4$

24. $f(x + 1)$

25. $g(3b)$

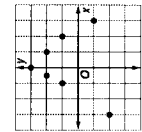
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4-6 Practice (Average) Functions

Determine whether each relation is a function.

1. **yes**

x	y
1	-5
-4	3
7	6
1	-2



4. $\{(1, 4), (2, -2), (3, -6), (-6, 3), (-3, 6)\}$ **yes**

6. $x = -2$ **no**

If $f(x) = 2x - 6$ and $g(x) = x - 2x^2$, find each value.

8. $f(2) = -2$

11. $g\left(\frac{1}{3}\right) = -\frac{5}{9}$

14. $f(h + 9) = 2h + 12$

15. $g(3y) = 3y - 18y^2$

12. $f(7) = 9 - 1$

13. $g(-3) + 13 = -8$

16. $2(g(b) + 1) = 2b - 4b^2 + 2$

10. $g(-1) = -3$

WAGES For Exercises 17 and 18, use the following information.

Martin earns \$7.50 per hour proofreading ads at a local newspaper. His weekly wage w can be described by the equation $w = 7.5h$, where h is the number of hours worked.

17. Write the equation in functional notation. $f(h) = 7.5h$

18. Find $f(15)$, $f(20)$, and $f(25)$. **112.50, 150, 187.50**

ELECTRICITY For Exercises 19-21, use the following information.

The table shows the relationship between resistance R and current I in a circuit.

Resistance (ohms)	120	80	48	6	4
Current (amperes)	0.1	0.15	0.25	2	3

19. Is the relationship a function? Explain. **Yes; for each value in the domain, there is only one value in the range.**

20. If the relation can be represented by the equation $IR = 12$, rewrite the equation in functional notation so that the resistance R is a function of the current I . $f(I) = \frac{12}{I}$

21. What is the resistance in a circuit when the current is 0.5 ampere? **24 ohms**

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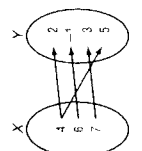
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4-6 Skills Practice Functions

Determine whether each relation is a function.

1. **yes**

x	y
2	7
5	-3
3	5
-4	-2
5	2



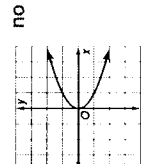
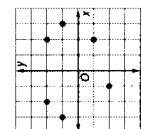
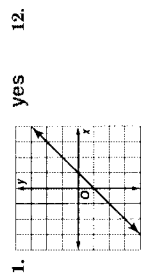
5. **no**

x	y
4	-5
-1	-10
0	-9
1	-7
9	1

7. $\{(2, 5), (4, -2), (3, 3), (5, 4), (-2, 5)\}$ **yes**

9. $y = 2x - 5$ **yes**

10. $y = 11$ **yes**



If $f(x) = 3x + 2$ and $g(x) = x^2 - x$, find each value.

14. $f(4) = 14$

15. $f(8) = 26$

16. $f(-2) = -4$

17. $g(2) = 2$

18. $g(-3) = 12$

19. $g(-6) = 42$

20. $f(2) + 1 = 9$

21. $f(1) - 1 = 4$

22. $g(2) - 2 = 0$

23. $g(-1) + 4 = 6$

24. $f(x + 1) = 3x + 5$

25. $g(3b) = 9b^2 - 3b$

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