1. What is the value of the expression $z^2 + 7z - 2$ when $z = 9$?

2. What is the value of the expression $5w - 2x$ when $w = 10$ and $x = 7$?

3. Write an equivalent expression by distributing the "$-$" sign outside the parentheses:

$$-(4.4g + 10)$$

4. Write an equivalent expression by distributing the "$-$" sign outside the parentheses:

$$-(1.7r + 3s) + 5.3$$

5. Rewrite in simplest terms:
$(-5x + 6y) - (-5x + 4y)$

6. Rewrite in simplest terms:
$(4x - 10) + (-9x - 1)$

7. Use the distributive property to write an equivalent expression.

$$7(m + 9n)$$

8. Use the distributive property to write an equivalent expression.

$$10(4s + 7t - 1)$$

9. Rewrite in simplest terms:
$6(-c + 10d) + 5d - 2(-6d - 4c)$

10. Rewrite in simplest terms: $3(-8w + w - 1) - 5w$

11. Which expression is equivalent to the expression below?

$$8(3x) + 6x$$

A. $30x$ B. $9x + 8$

C. $24x + 3x^2$ D. $17x$

12. Which expression is equivalent to the expression below?

$$t + t + t + t + t + v + v + v$$

A. $8 + t + v$ B. $8tv$

C. $\frac{t}{5} + \frac{v}{3}$ D. $5t + 3v$

13. Evaluate the expression shown below and write your answer **as a fraction** in simplest form.

$$-\frac{1}{16} + \left(-\frac{3}{20}\right)$$

14. Evaluate the expression shown below and write your answer **as a fraction** in simplest form.

$$\frac{4}{7} + \left(-\frac{1}{7}\right)$$

15. Perform the operation and reduce the answer fully. Make sure to express your answer as a simplified fraction.

$$-\frac{3}{4} \div 5$$

16. Perform the operation and reduce the answer fully. Make sure to express your answer as a simplified fraction.

$$-\frac{1}{2} \div -\frac{5}{2}$$

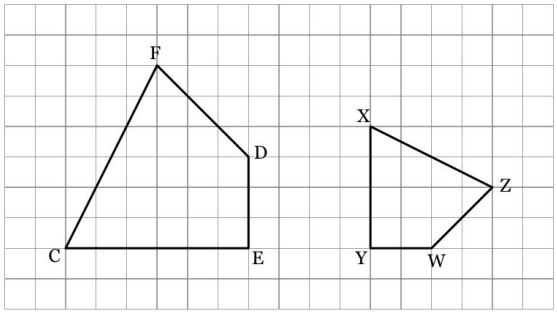
17. Simplify to a single power of 6:

$$6 \cdot 6^6$$

18. Simplify to a single power of 6:

$$\left(6^5\right)^3$$

19. The figure on the right is a *scaled copy* of the figure on the left, though it might have also been rotated.



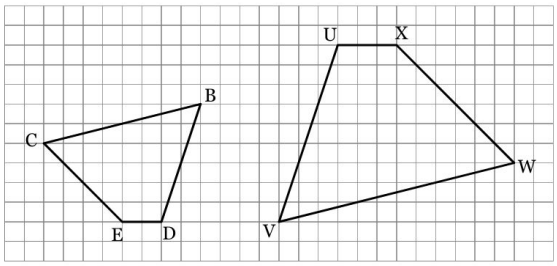
Which side in the figure on the right *corresponds* to segment $\overline{DF}$? _____ word bank 1

What is the scale factor? _____ word bank 2

Word bank 1: **(a)** $\overline{XY}$, **(b)** $\overline{YW}$, **(c)** $\overline{WZ}$, **(d)** $\overline{ZX}$

Word bank 2: **(a)** 2, **(b)** 3, **(c)** 1/2, **(d)** 1/3, **(e)** 2/3, **(f)** 3/2

20. The figure on the right is a *scaled copy* of the figure on the left, though it might have also been rotated.



Which side in the figure on the right *corresponds* to segment $\overline{DB}$? _____ word bank 1

What is the scale factor? _____ word bank 2

Word bank 1: **(a)** $\overline{XU}$, **(b)** $\overline{UV}$, **(c)** $\overline{VW}$, **(d)** $\overline{WX}$

Word bank 2: **(a)** 2, **(b)** 3, **(c)** 1/2, **(d)** 1/3, **(e)** 2/3, **(f)** 3/2

21. Solve for x.

$$\frac{x}{9} = \frac{7}{3}$$

22. Solve for x.

$$\frac{2}{9} = \frac{x}{27}$$

23. Solve for x.

$$x - 10 = -3$$

24. Solve for t.

$$-4 = -8 + t$$

25. Solve for a.

$$55 = -11a$$

26. Solve for r.

$$30 = 6r$$

27. Solve for b.

$$-2 = \frac{b}{3}$$

28. Solve for n.

$$\frac{n}{-10} = -7$$

29. Solve for x.

$$47 = -\frac{x}{11} + 43$$

30. Solve for a.

$$79 = 5a + 9$$

31. Solve for x:

$$-12x - 7 = -8x - 19$$

32. Solve for x:

$$-13x + 7 = -9x + 11$$

33. Solve for all values of c in simplest form.

$$10 = |-4c + 6|$$

34. Solve for all values of b in simplest form.

$$|10 + 5b| = 30$$

35. Solve. $10(y - 3) = 10$

36. Solve. $2(4z + 1) = 42$

37. Solve for x.

$$-4(2x - 4) + 5x + 4 = 8$$

38. Solve for x.

$$-2(5x - 4) - 2x + 5 = 49$$

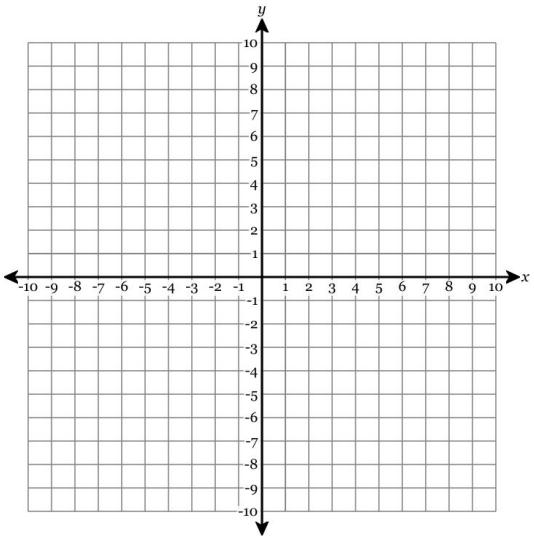
39. Solve for x:

$$-9x - (x + 8) = -7 + 3(x + 4)$$

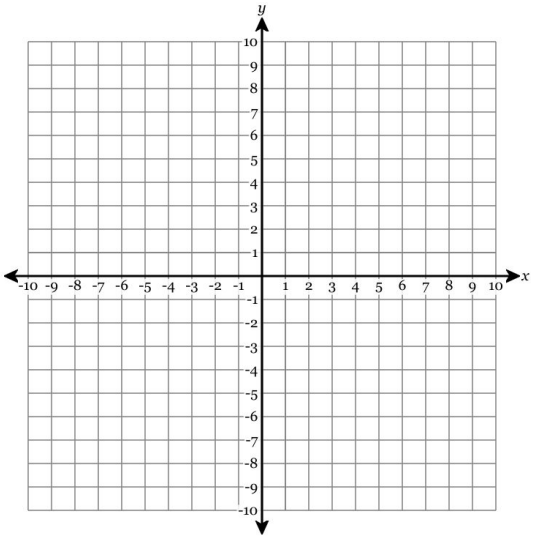
40. Solve for x:

$$-3(3x - 10) - x = -7x$$

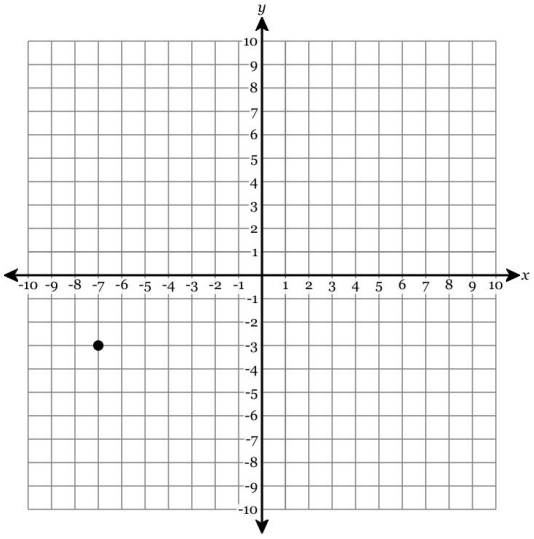
41. Plot the point $(7, 6)$.



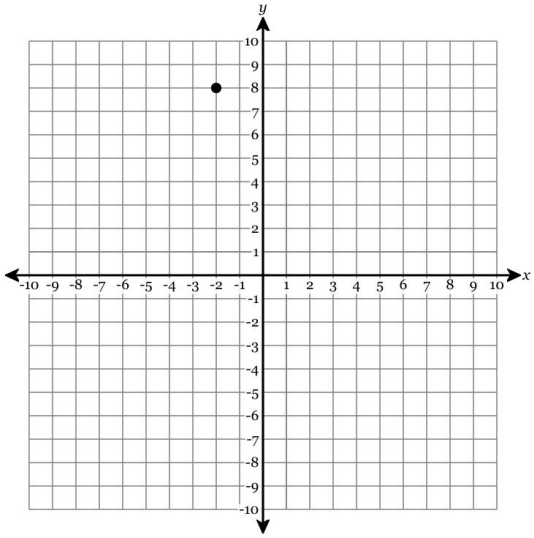
42. Plot the point $(4, -2)$.



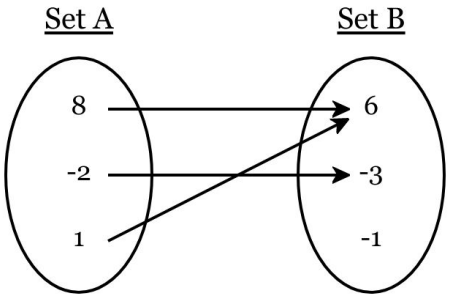
43. State the coordinates of the point.



44. State the coordinates of the point.



45. Fill in the blanks below in order to justify whether or not the mapping shown represents a function.



The mapping diagram above _____ (word bank 1) a function since _____ (word bank 2) in _____ (word bank 3) has _____ (word bank 4) _____ (word bank 5).

This word bank also applies to question 46.

Word bank 1: **(a)** does NOT represent, **(b)** represents

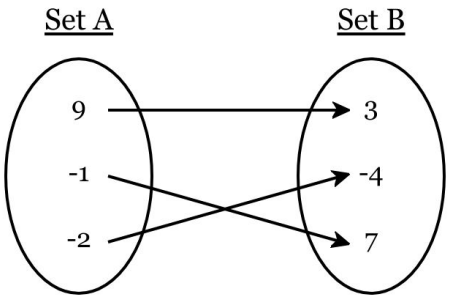
Word bank 2: **(a)** each number, **(b)** one number

Word bank 3: **(a)** Set B (the input), **(b)** Set B (the output), **(c)** Set A (the output), **(d)** Set A (the input)

Word bank 4: **(a)** only one mapping, **(b)** no mapping, **(c)** multiple mappings

Word bank 5: **(a)** to Set B (the output), **(b)** from Set A (the input), **(c)** to Set B (the input), **(d)** from Set A (the output)

46. Fill in the blanks below in order to justify whether or not the mapping shown represents a function.



The mapping diagram above _____ (word bank 1) a function since _____ (word bank 2) in _____ (word bank 3) has _____ (word bank 4) _____ (word bank 5).

47. Which set of ordered pairs does *not* represent a function?

A. $\{(4,-1),(-9,-2),(-8,-2),(2,-7)\}$

B. $\{(5,9),(6,4),(1,6),(6,0)\}$

C. $\{(3,5),(-1,2),(2,-2),(8,2)\}$

D. $\{(-6,9),(8,4),(5,3),(7,-1)\}$

48. Which set of ordered pairs does *not* represent a function?

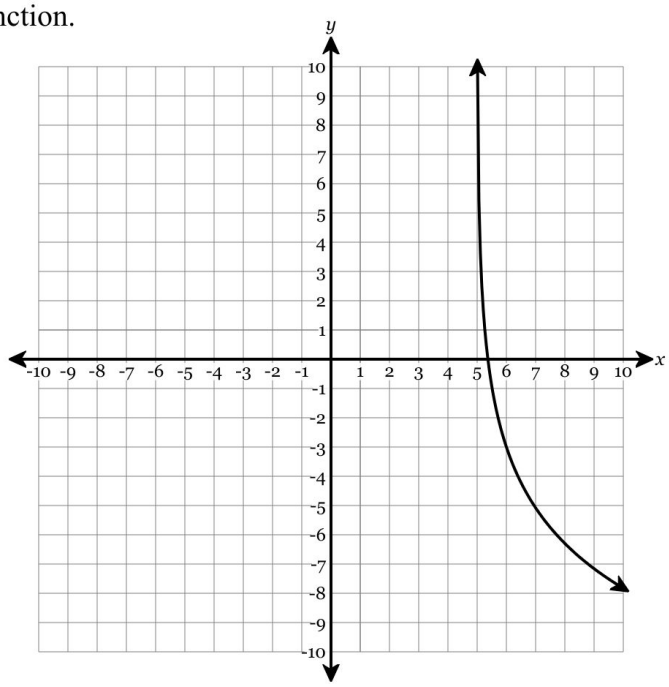
A. $\{(-6,4),(-9,2),(7,-5),(-3,2)\}$

B. $\{(4,6),(-7,-5),(9,-5),(8,-2)\}$

C. $\{(-1,1),(9,-8),(-6,2),(-6,3)\}$

D. $\{(-7,5),(-5,-5),(8,4),(-8,4)\}$

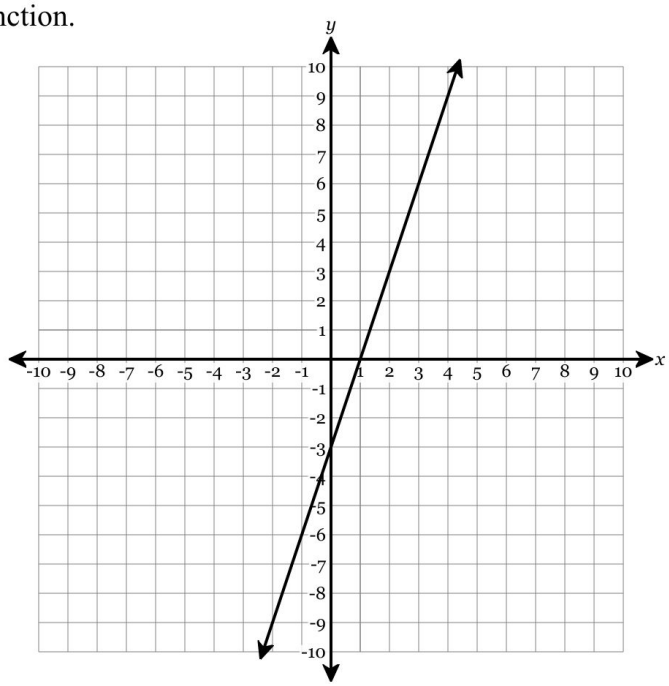
49. Determine whether the following graph represents a function.



A. Function

B. Not a Function

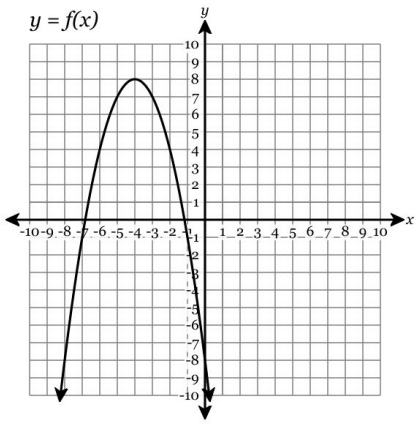
50. Determine whether the following graph represents a function.



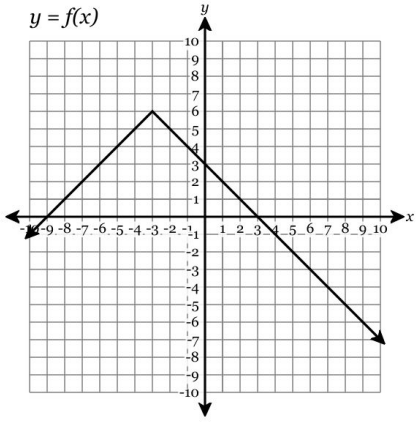
A. Function

B. Not a Function

51. Find the value of $f(-8)$.



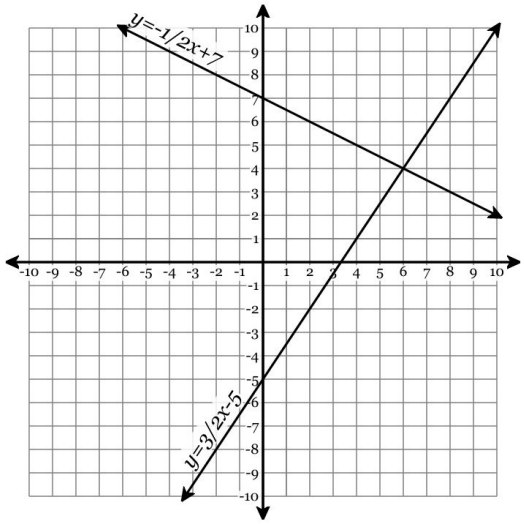
52. Find the value of $f(-4)$.



53. Solve the system of equations graphed on the coordinate axes below.

$$y = -\frac{1}{2}x + 7$$

$$y = \frac{3}{2}x - 5$$



54. Solve the system of equations graphed on the coordinate axes below.

$$y = -x - 8$$

$$y = x$$