Name _____ Date _____

Blue Review

Evaluate the expression.

7. $15 - 8 + 4$

8. $13 - 7 + 2$

9. $6 \cdot 4 \div 8$

10. $7 \cdot 4 - 3$

11. $32 - 9 \div 3$

12. $9 + 3 \cdot 4$

13. $6(8 - 3)$

14. $20 + 3^2$

15. $5^2 - 8 \cdot 2$

Evaluate the expression.

16. $6x + 3$ when $x = 2$

17. $4b - 1$ when $b = 5$

18. $5 + 2m^2$ when $m = 6$

19. $3y^2 - 2$ when $y = 1$

20. $5 \cdot 2a^3$ when $a = 3$

21. $4c^2 - 2c$ when $c = 5$

22. $10 + n^3$ when $n = 0.5$

23. $40 - \frac{32}{r}$ when $r = 4$

24. $x^2 \div 3 - 12$ when $x = 9$

Translate the verbal phrase into an expression.

1. 7 more than a number b
2. The product of 11 and a number x
3. 70 divided by a number m
4. $\frac{1}{3}$ of a number y
5. The difference of 18 and a number c
6. The sum of a number t and 20
7. The quotient of a number n and 15
8. 25 times a number p

Write an expression for the situation.

9. The height of a wall that is b bricks tall if each brick is 3 inches tall
10. The number of miles in a 4-mile walk left to walk if you've already walked m miles
11. The total number of lawns you will mow today if you've already mowed 4 lawns and will mow w more lawns
12. Each person's share if p people share 3 gallons of water equally

Write an equation or an inequality.

5. The sum of 8 and a number n is equal to 15.

6. The product of 5 and a number y is at least 22.

7. The difference of a number x and 6 is 19.

8. The quotient of a number b and 7 is more than 25.

Check whether the given number is a solution of the equation or inequality.

9. $x + 14 = 19; 5$

10. $2m + 3 = 11; 3$

11. $\frac{b}{3} + 4 = 7; 9$

12. $4a - 5 \leq 10; 4$

13. $22 - y > 13; 8$

14. $\frac{p}{5} - 8 > 1; 40$

Identify the domain and range of the function.

3.

Input	Output
1	8
3	7
5	6
7	5

4.

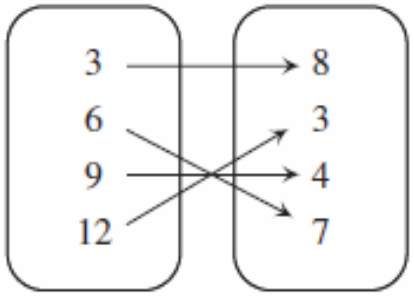
Input	Output
7	4
2	2
5	1
3	5

5.

Input	Output
0.4	15
0.5	13
0.6	11
0.7	9

Tell whether the pairing is a function.

6.



7.

Input	Output
6	3
3	1
0	2
3	4

8.

Input	Output
10	9
11	3
12	6
13	9

Make a table for the function. Identify the range of the function.

9. $y = 4x$

Domain: 0, 1, 2, 3

10. $y = x + 2$

Domain: 11, 15, 22, 27

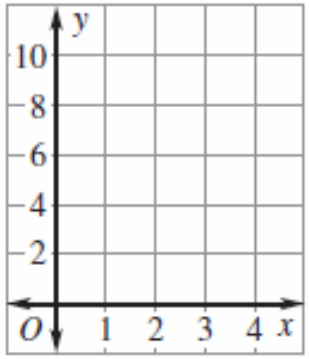
11. $y = x - 3$

Domain: 5, 9, 14, 19

Graph the function.

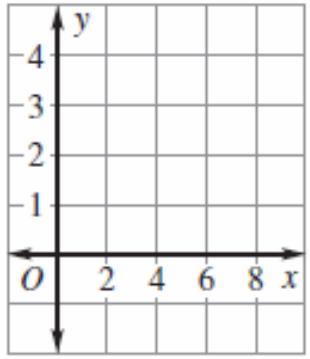
12. $y = x + 5$

Domain: 0, 1, 2, 3



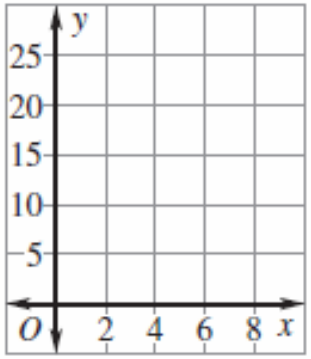
13. $y = x - 3$

Domain: 6, 5, 4, 3



14. $y = 3x$

Domain: 1, 3, 5, 7



Match the rule for the function with its graph.

15. $y = 6x$

16. $y = 6x - 1$

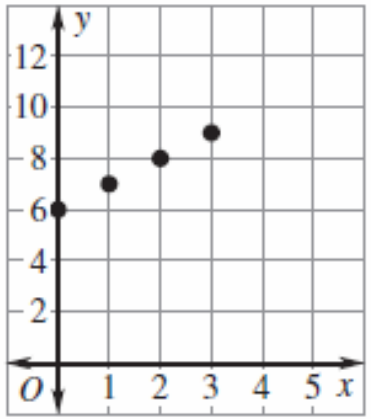
17. $y = x + 6$

18. $y = \frac{1}{6}x$

19. $y = x - 6$

20. $y = 6x + 1$

A.



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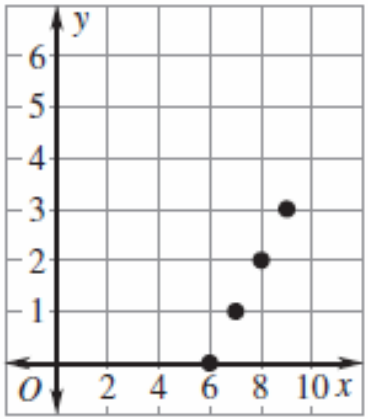

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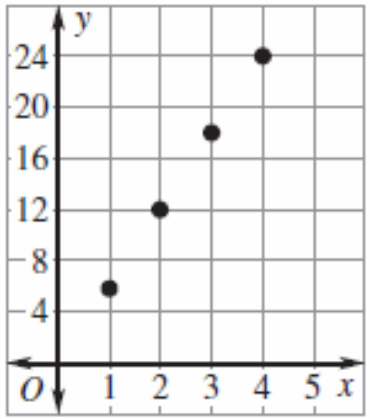

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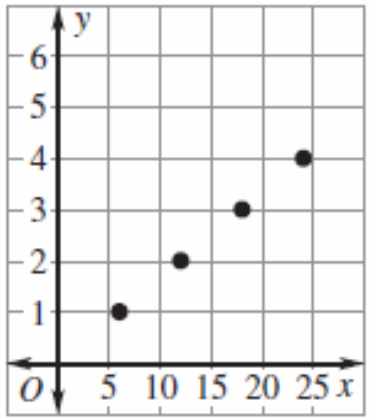

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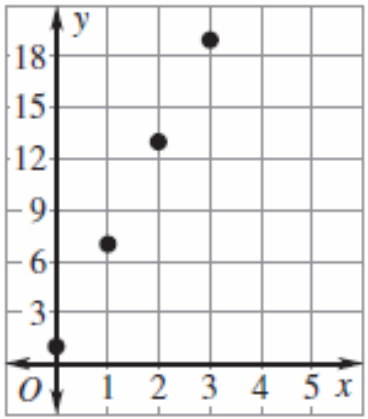

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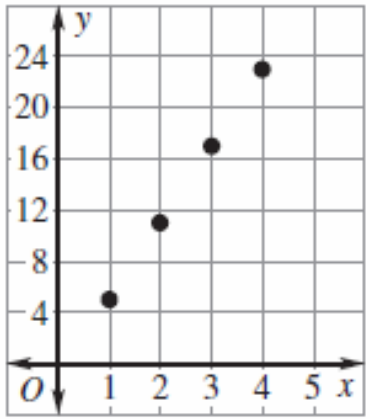

Evaluate the expression when $x = -5$.

13. $-x$ **14.** $|x|$ **5.** $|x| + 2$

Find the sum.

16. $-13 + 7$ **17.** $15 + (-4)$ **18.** $-7 + (-9)$

19. $7.9 + (-3.6)$ **20.** $-6.7 + 3.2$ **21.** $-2.4 + (-3.3)$

22. $-1.4 + 5.8$ **23.** $14.1 + (-10.5)$ **24.** $-5.8 + 9.4$

Find the product.

1. $-6(7)$ **2.** $10(-4)$ **3.** $-8(-7)$

4. $15(-2)$ **5.** $-9(8)$ **6.** $-4(12)$

7. $14\left(-\frac{1}{2}\right)$ **8.** $-\frac{1}{3}(24)$ **9.** $-\frac{2}{5}(-10)$

10. $4(-1.3)$ **11.** $10(-3.6)$ **12.** $-5.1(-20)$

Find the difference.

4. $15 - (-3)$

5. $18 - (-21)$

6. $-5 - (-6)$

7. $-11 - (-19)$

8. $-24 - (-35)$

9. $24 - (-8)$

10. $-9 - (-12)$

11. $-15 - (-36)$

12. $-10 - (-55)$

13. $17.5 - (-5)$

14. $14.2 - (-3.6)$

15. $-7.2 - (-5.1)$

Evaluate the expression when $x = 2.5$ and $y = -4$.

16. $y - x$

17. $x - y$

18. $y - x + 3$

19. $y - 8 - x$

20. $x - 4 - y$

21. $-y + 12 + x$

Find the product. Justify your steps.

22. $x(-3)(-2)$

23. $-21(-y)$

24. $\frac{1}{2}(-6m)$

25. $6y(-2)$

26. $8\left(-\frac{1}{2}x\right)$

27. $4x(-3)$

Evaluate the expression when $x = 5$ and $y = -2$.

28. xy

29. $2y + x$

30. $-3x + y$

31. $-4x - y$

32. $y - 6x$

33. $10xy$

Use the distributive property to write an equivalent expression.

5. $3(x + 5)$

6. $(x + 2)6$

7. $-2(x + 9)$

8. $(x + 10)(-1)$

9. $4(x - 6)$

10. $-3(x - 1)$

Find the quotient.

7. $-25 \div 5$

8. $36 \div (-4)$

9. $-48 \div (-4)$

10. $-12 \div \frac{1}{2}$

11. $24 \div \left(-\frac{2}{3}\right)$

12. $-10 \div \frac{2}{5}$

13. $-\frac{3}{4} \div 3$

14. $\frac{10}{11} \div (-5)$

15. $-1 \div \left(-\frac{3}{2}\right)$

Simplify the expression.

17. $8x + (-12x)$

18. $17x + (-9x)$

19. $15x - x$

20. $3 + 6x + 1$

21. $8x + 5 + 2x$

22. $2(x + 4) + 7x$

Evaluate the expression.

4. $\sqrt{49}$ **5.** $-\sqrt{4}$ **6.** $-\sqrt{25}$

7. $\sqrt{81}$ **8.** $-\sqrt{121}$ **9.** $\pm\sqrt{16}$

Write the greatest perfect square less than the number and the least perfect square greater than the number.

10. 13 **11.** 28 **12.** 45

Approximate the square root to the nearest integer.

13. $\sqrt{5}$ **14.** $\sqrt{19}$ **15.** $-\sqrt{28}$

16. $-\sqrt{53}$ **17.** $-\sqrt{11}$ **18.** $\sqrt{70}$

Solve the equation.

18. $8x = 40$

19. $-3b = 21$

20. $12 = 2m$

21. $-34 = 2y$

22. $\frac{1}{2}n = 13$

23. $-\frac{1}{7}a = 5$

Solve the equation.

7. $4n + 8 = 12$

8. $5y + 2 = 17$

9. $8x - 15 = 1$

10. $3c - 4 = 5$

11. $12 = 7 - m$

12. $19 = 10 - b$

13. $\frac{p}{2} + 3 = 11$

14. $\frac{w}{5} + 6 = 16$

15. $\frac{z}{4} - 5 = 3$

Solve the equation.

20. $3a + 5a = 16$

21. $4y + 7y = 22$

22. $5p + 2p = 28$

23. $16x - 4x = 36$

24. $12m - 3m = 18$

25. $23z - 13z = 50$

Solve the equation.

10. $3a + 2a + 7 = 12$

11. $9n - 4 + n = 16$

12. $7c + 3 - 5c = 15$

13. $16 - 3y + 4y = 27$

14. $2 + 3(x + 1) = 17$

15. $15 + 4(m - 2) = 21$

16. $2p + 3(p + 3) = 21$

17. $6w + 5(w - 2) = 23$

18. $7 - 3(x + 2) = 4$

Solve the equation and describe each step you use.

7. $6p - 3 = 4p - 1$

8. $10a - 2 = 7a + 4$

9. $5(m + 2) = 20$

Solve the equation, if possible.

10. $9x - 2 = 8x + 7$

11. $5n - 3 = 3n + 1$

12. $4z - 5 = 8z + 3$

13. $-a + 4 = a + 6$

14. $w + 8 = w - 3$

15. $2(y - 3) = y + 4$

16. $3(m + 2) = 8 + m$

17. $6 + x = 6(x - 5)$

18. $7(b + 3) = 7b - 4$

Solve the proportion.

7. $\frac{3}{4} = \frac{x}{8}$

8. $\frac{1}{5} = \frac{m}{30}$

9. $\frac{5}{20} = \frac{a}{4}$

10. $\frac{p}{18} = \frac{4}{9}$

11. $\frac{w}{15} = \frac{2}{5}$

12. $\frac{4}{3} = \frac{y}{12}$

13. $\frac{3}{6} = \frac{z}{14}$

14. $\frac{6}{8} = \frac{c}{12}$

15. $\frac{n}{8} = \frac{9}{12}$

Solve the proportion.

10. $\frac{4}{5} = \frac{12}{x}$

11. $\frac{6}{m} = \frac{30}{40}$

12. $\frac{7}{3} = \frac{56}{a}$

13. $\frac{70}{p} = \frac{10}{9}$

14. $\frac{15}{1} = \frac{30}{c}$

15. $\frac{1}{w} = \frac{80}{240}$

16. $\frac{16}{45} = \frac{32}{d}$

17. $\frac{88}{z} = \frac{11}{8}$

18. $\frac{60}{b} = \frac{15}{16}$

19. $\frac{3x}{4} = \frac{12}{16}$

20. $\frac{5y}{13} = \frac{15}{39}$

21. $\frac{2n}{14} = \frac{9}{7}$

Use a proportion to answer the question.

15. What percent of 20 is 6?

16. What percent of 130 is 52?

17. What number is 20% of 125?

18. What number is 45% of 300?

19. 6 is 10% of what number?

20. 72 is 36% of what number?

27. **Sweater** You bought a sweater on sale for $15. The original price of the sweater was $40. What percent of the original price was the sale price?

28. **Aquarium** You have filled 15% of a 30-gallon aquarium with water. How much water have you put into the aquarium?

29. **Research Paper** You have written 4 pages of a research paper. This is 80% of the number of pages you need to complete the paper. How many pages is the paper supposed to be?