

Practice

Properties of Real Numbers

Name the sets of numbers to which each number belongs.

1. 6425

2. $\sqrt{7}$

3. π

4. 0

5. $\sqrt{\frac{25}{36}}$

6. $-\sqrt{16}$

7. -35

8. -31.8

Name the property illustrated by each equation.

9. $5x + (4y + 3x) = 5x + (3x + 4y)$

10. $7x + (9x + 8) = (7x + 9x) + 8$

11. $5(3x + y) = 5(3x + 1y)$

12. $7n + 2n = (7 + 2)n$

13. $3(2x)y = 3 \cdot 2(xy)$

14. $3x \cdot 2y = 3 \cdot 2 \cdot x \cdot y$

15. $(6 + -6)y = 0y$

16. $\frac{1}{4} \cdot 4y = 1y$

17. $5(x + y) = 5x + 5y$

18. $4n + 0 = 4n$

Simplify each expression.

19. $5x - 3y - 2x + 3y$

20. $-11a - 13b + 7a - 3b$

21. $8xy - 7y - (3 - 6y)$

22. $4c - 2c^2 - (4c + 2c^2)$

23. $3(r - 10s) - 4(7s + 2r)$

24. $\frac{1}{5}(10a - 4) + \frac{1}{2}(8 + 4a)$

25. $2x(4 - 2x + y) - 5x(y^2 + x - y)$

26. $\frac{5}{6}\left(\frac{3}{10}x + 12y\right) - \frac{1}{4}(2x - 3y)$