



Lesson Check

Do you know HOW?

Write an example from daily life that uses each type of real number.

- whole numbers
- integers
- rational numbers

Identify the property illustrated by the equation.

- $5 + (-5) = 0$
- $2 \cdot (4 \cdot 5) = (2 \cdot 4) \cdot 5$

Do you UNDERSTAND?



MATHEMATICAL PRACTICES

- Vocabulary** Identify another name for a reciprocal.
- Compare and Contrast** How is the Additive Identity Property similar to the Multiplicative Identity Property? How is it different?
- Reasoning** There are grouping symbols in the equation $(5 + w) + 8 = (w + 5) + 8$, but it does not illustrate the Associative Property of Addition. Explain.
- Give an example of a number that is not a rational number. Explain why it is not rational.



Practice and Problem-Solving Exercises



MATHEMATICAL PRACTICES



Practice

Classify each variable according to the set of numbers that best describes its values.

See Problem 1.

- the number of times n a ball bounces; the height h from which the ball is dropped
- the year y ; the median selling price p for a house that year
- the circumference C of a circle found by using the formula $C = 2\pi r$

Graph each number on a number line.

See Problem 2.

- | | | | | |
|---------|------------------|-----------------|---------------------|---------------------|
| 13. 0 | 14. $-\sqrt{24}$ | 15. -2 | 16. $2\frac{1}{2}$ | 17. $-4\frac{2}{3}$ |
| 18. 3.5 | 19. -1.4 | 20. $\sqrt{10}$ | 21. $-2\frac{1}{5}$ | 22. 4.8 |

Compare the two numbers. Use $>$ or $<$.

See Problem 3.

- | | | |
|----------------------------|---------------------|--------------------------|
| 23. 16, $\sqrt{16}$ | 24. $-4, -\sqrt{4}$ | 25. $\sqrt{5}, \sqrt{7}$ |
| 26. $-\sqrt{3}, -\sqrt{5}$ | 27. 5, $\sqrt{22}$ | 28. $-\sqrt{38}, 6$ |
| 29. 4, $\sqrt{12}$ | 30. $-8, \sqrt{70}$ | 31. $\sqrt{63}, 7.5$ |
| 32. 4.7, $\sqrt{26}$ | 33. $\sqrt{75}, 9$ | 34. 12, $-\sqrt{150}$ |

Name the property of real numbers illustrated by each equation.

See Problem 4.

- | | |
|---|---|
| 35. $\pi(a + b) = \pi a + \pi b$ | 36. $-10 + 4 = 4 + (-10)$ |
| 37. $(2\sqrt{7}) \cdot \sqrt{3} = 2(\sqrt{7} \cdot \sqrt{3})$ | 38. $29 \cdot \pi = \pi \cdot 29$ |
| 39. $-\sqrt{5} + 0 = -\sqrt{5}$ | 40. $\frac{4}{7} \cdot \frac{7}{4} = 1$ |

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Lesson 1-2 Properties of Real Numbers

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