Lesson 58 • Solving Percent Problems with Equations

Power Up

– *Facts*

– *Mental Math*

– *Problem Solving*

New Concepts

– *Examples*

– *Practice Set*

Written Practice

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Facts Write each number in scientific notation.

$186{,}000 = 1.86 \times 10^5$	$0.0002 = 2 \times 10^{-4}$
$2{,}050{,}000 = 2.05 \times 10^6$	$\frac{1}{1{,}000{,}000} = 1 \times 10^{-6}$
15 million $= 1.5 \times 10^7$	12 thousandths $= 1.2 \times 10^{-2}$

Write each number in standard form.

$3 \times 10^5 = 300{,}000$	$1 \times 10^{-3} = 0.001$
$3.75 \times 10^4 = 37{,}500$	$3.5 \times 10^{-5} = 0.000035$
$4.05 \times 10^3 = 4050$	$2.04 \times 10^{-2} = 0.0204$

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Written Practice

1. 2×10^{23}
2. 18,000
3. $11.30
4. a.

   b. mean = 2.0; median = 1.6; mode = none; range = 1.6

   c. mean

5. a. {15-27-18, 15-18-27, 27-15-18, 27-18-15, 18-15-27, 18-27-15}

   b. $\frac{1}{6}$

6. x = 3.5

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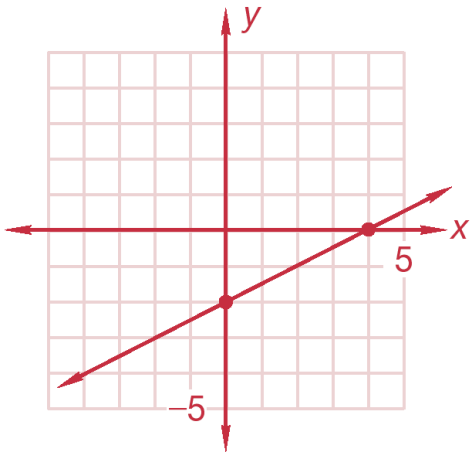
Written Practice *continued*

7. 110°

8.



9. 8,000 mi; Example answer: The circumference is roughly three times the diameter, so I divided 25,000 by 3 and rounded the quotient down to 8,000.

10. m = 2

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Written Practice *continued*

11. $x = -9$

12. $x = \frac{1}{2}$

13. $y = 3$

14. See student work. Sample answer: I predict the beach ball will pass through the hoop because the circumference of the hoop is more than 54 inches (3 × 18).

15. a. 42 cm^2,

b. 26 cm

16. $5\frac{5}{8}$

17. $2.5 \text{ ft} \times \frac{12 \text{ in.}}{1 \text{ ft}} = 30 \text{ in.}$

18. $\frac{4}{25}$

19. r

20. $\frac{1}{5}$

21. $x^2 + 3x + 2$

22. a. 0.55, $\frac{11}{20}$

b. $660

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Written Practice *continued*

23. 0.143

24. −9

25. a. AAA Triangle Similarity

b. 24

c. 26

26. 10^{-5} kg

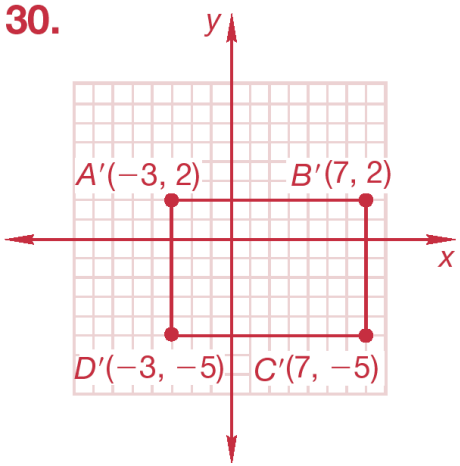
27. 10%

28. about 28.26 ft^2

29. 1000 mph

30. A′(−3, 2), B′(7, 2), C′(7,−5), D′(−3,−5)

30.



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