Lesson 3-3: Represent and Use the Percent Equation

1. Sample answer: You can compare a percent, as a fraction $\frac{p}{100}$, to a part and a whole. Use the equation $\frac{p}{100} = \frac{part}{whole}$ or part = percent · whole to represent the proportional relationship.

2. Sample answer: The tip amount is more than the waiter usually receives because $11 is about 23% of $47.20.

3. Sample answer: First she wrote a percent equation. Then she solved for ℓ. She rounded her answer to a whole number.

4. $120

5. y = 0.30 · 1.5; y = 0.45; They should use 0.45 quarts of yellow paint.

6. About 8 %.

7. 430; 500
   86%

8. 40; 0.05%
   800

9. 20.75%

10. 72.5%

11. $30.72

12. $1.80

13. $28.20

14. 3,500 students

15. part = percent · whole;
    2,600 = 65% · 4,000
    65%

16. a. $1,320

    b. The commission doubles; Sample answer: The whole doubles, so for the percent to stay the same, the part must double.

17. a. $21.90

    b. $708.10; Sample answer: The total was $730 and Heidi earned $21.90, so the store made 730 - 21.90 = $708.10.

18. 3,450 workers. Sample answer: If 60% are men, then 40% are women. 1,340 ÷ 0.4 = 3,450. There are $\frac{60}{40}$, or 1.5 times as many men as women. 1.5 · 1,380 = 2,070 men. 1,380 + 2,070 = 3,450 workers.

19. A

20. $6,303; Sample answer: The real estate agency earned 5.5% of $382,000. 0.055 · 382,000 = $21,010. The agent earned 30% of the $21,010 commission made by the real estate agency. 30% of 21,010 is 0.3 · 21,010 = $6,303.