Lesson 3-1: Analyze Percents of Numbers

1. Sample answer: Percent is a ratio that compares a quantity to 100.

2. The value is greater than the original value; The value is less than one one-hundredth of the original value.

3. No; Sample answer: Finding 25% of a number is the same as multiplying that number by $\frac{1}{4}$, not dividing it by $\frac{1}{4}$.

4. 100 ounces

5. a. 377.6
   b. 7.084
   c. 1,107.6
   d. 680.8

6. $\frac{2.02}{18.02} \approx 0.112$
   $0.112 = \frac{11.2}{100} = 11.2\%$

7. $\frac{x}{60} \cdot 60 = \frac{80}{100} \cdot 60$
   4,800
   48

8. $\frac{x}{20} \cdot 20 = \frac{20}{100} \cdot 20$
   400
   4

9. a. part
   b. percent

10. a. $288
    b. $14,976

11. $45.60

12. $1.60; $41.60

13. Greater than 10 but less than 100; Sample answer: 100% of 5 is 5, so 700% of 5 is 7 times 100%, or 35.

14. Greater than 100 but less than 150; Sample answer: I added 44 (100%), 44 (100%), and 22 (50%).

15. About 4.8 ounces to 5.6 ounces.

16. 58.5 mg

17. 17,000; $\frac{0.9}{100} = \frac{153}{n}$

18. No; Sample answer: If the first number is 100, the second number is 1.25 x 100 = 125. 100 ÷ 125 = 0.8, so 100 is 80% of 125, not 75%.

19. Mark earns more money. Sample answer: Mark earns $960 for 40 hours and then $720 for 20 hours of overtime, which is $1,680 total. Joe makes 5% of $21,000, or 0.05 x 21,000, which is $1,050.

20. Pamela earns more money. Sample: Pamela earns $800 for 40 hours. John earns $715 for 11 pupils.

21. C