Lesson Summary

- Identify the type of percent problem that is being asked as a comparison of quantities or a part of a whole.
- Identify what numbers represent the part, the whole, and the percent, and use the representation

$$\text{Quantity} = \text{Percent} \times \text{Whole}.$$

- A strategy to solving percents using mental math is to rewrite a percent using 1%, 5%, or 10%. These percents can be solved mentally. For example: $13\% = 10\% + 3(1\%)$. To find 13% of 70, find 10% of 70 as 7, 1% of 70 as 0.7, so 13% of 70 is $7 + 3(0.7) = 7 + 2.10 = 9.10$.

Problem Set

1. Micah has 294 songs stored in his phone, which is 70% of the songs that Jorge has stored in his phone. How many songs are stored on Jorge's phone?

2. Lisa sold 81 magazine subscriptions, which is 27% of her class's fundraising goal. How many magazine subscriptions does her class hope to sell?

3. Theresa and Isaiah are comparing the number of pages that they read for pleasure over the summer. Theresa read 2,210 pages, which was 85% of the number of pages that Isaiah read. How many pages did Isaiah read?

4. In a parking garage, the number of SUVs is 40% greater than the number of non-SUVs. Gina counted 98 SUVs in the parking garage. How many vehicles were parked in the garage?

5. The price of a tent was decreased by 15% and sold for $76.49. What was the original price of the tent in dollars?

6. 40% of the students at Rockledge Middle School are musicians. 75% of those musicians have to read sheet music when they play their instruments. If 38 of the students can play their instruments without reading sheet music, how many students are there at Rockledge Middle School?

7. At Longbridge Middle School, 240 students said that they are an only child, which is 48% of the school's student enrollment. How many students attend Longbridge Middle School?

8. Grace and her father spent $4\frac{1}{2}$ hours over the weekend restoring their fishing boat. This time makes up 6% of the time needed to fully restore the boat. How much total time is needed to fully restore the boat?

9. Bethany's mother was upset with her because Bethany's text messages from the previous month were 218% of the amount allowed at no extra cost under her phone plan. Her mother had to pay for each text message over the allowance. Bethany had 5,450 text messages last month. How many text messages is she allowed under her phone plan at no extra cost?

10. Harry used 84% of the money in his savings account to buy a used dirt bike that cost him $1,050. How much money is left in Harry's savings account?

11. 15% of the students in Mr. Riley's social studies classes watch the local news every night. Mr. Riley found that 136 of his students do not watch the local news. How many students are in Mr. Riley's social studies classes?

12. Grandma Bailey and her children represent about 9.1% of the Bailey family. If Grandma Bailey has 12 children, how many members are there in the Bailey family?

13. Shelley earned 20% more money in tips waitressing this week than last week. This week she earned $72.00 in tips waitressing. How much money did Shelley earn last week in tips?

14. Lucy's savings account has 35% more money than her sister Edy's. Together, the girls have saved a total of $206.80. How much money has each girl saved?

15. Bella spent 15% of her paycheck at the mall, and 40% of that was spent at the movie theater. Bella spent a total of $13.74 at the movie theater for her movie ticket, popcorn, and a soft drink. How much money was in Bella's paycheck?

16. On a road trip, Sara's brother drove 47.5% of the trip, and Sara drove 80% of the remainder. If Sara drove for 4 hours and 12 minutes, how long was the road trip?