

4-9: Learning Goals

- Let's explore percentages smaller than 1%.



4-9-1: What Percentage

Determine the percentage mentally.

- 10 is what percentage of 50?
- 5 is what percentage of 50?
- 1 is what percentage of 50?
- 17 is what percentage of 50?





4-9-2: Waiting Tables

During one waiter's shift, he delivered 13 appetizers, 17 entrées, and 10 desserts.

1. What percentage of the dishes he delivered were:
 - a. desserts?
 - b. appetizers?
 - c. entrées?
2. What do your percentages add up to?



4-9-3: Fractions of a Percent

1. Find each percentage of 60. What do you notice about your answers?

30% of 60

3% of 60

0.3% of 60

0.03% of 60

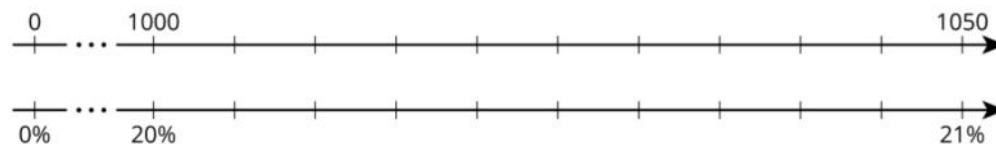
2. 20% of 5,000 is 1,000 and 21% of 5,000 is 1,050. Find each percentage of 5,000 and be prepared to explain your reasoning. If you get stuck, consider using the double number line diagram.

a. 1% of 5,000

b. 0.1% of 5,000

c. 20.1% of 5,000

d. 20.4% of 5,000



3. 15% of 80 is 12 and 16% of 80 is 12.8. Find each percentage of 80 and be prepared to explain your reasoning.

a. 15.1% of 80

b. 15.7% of 80



4-9-4: Population Growth

1. The population of City A was approximately 243,000 people, and it increased by 8% in one year. What was the new population?
2. The population of city B was approximately 7,150,000, and it increased by 0.8% in one year. What was the new population?



4-9: Lesson Synthesis

- How are these percentages related to each other: 40%, 4%, 0.4%, 0.04%?
- How can we use 40% to help calculate the other percentages?
- If we know 1% of a number, how can we use that to help us calculate 0.5% of a number?



4-9: Learning Targets

- I understand that to find 0.1% of an amount I have to multiply by 0.001.
- I can find percentages of quantities like 12.5% and 0.4%.



4-9-5: Percentages of 75

Find each percentage of 75. Explain your reasoning.

1. What is 10% of 75?
2. What is 1% of 75?
3. What is 0.1% of 75?
4. What is 0.5% of 75?

