

Warm Up: 5 mins.

9.1: Number Talk: What Percentage?

2 strategies for each

(Display problems 1 at a time)  
30 secs. think, signal strategy

(Rephrase if difficulty)  
"What percentage of 50 is \_\_\_?"

i) 10 is what percentage of 50?

20%       $\frac{10}{50} = \frac{20}{100}$

ii) 5 is what percentage of 50?

10%       $\frac{5}{50} = \frac{10}{100}$

iii) 1 is what percentage of 50?

2%       $\frac{1}{50} = \frac{2}{100}$

iv) 17 is what percentage of 50?

34%       $\frac{17}{50} = \frac{34}{100}$

$y = 2x$

# BARTLETT

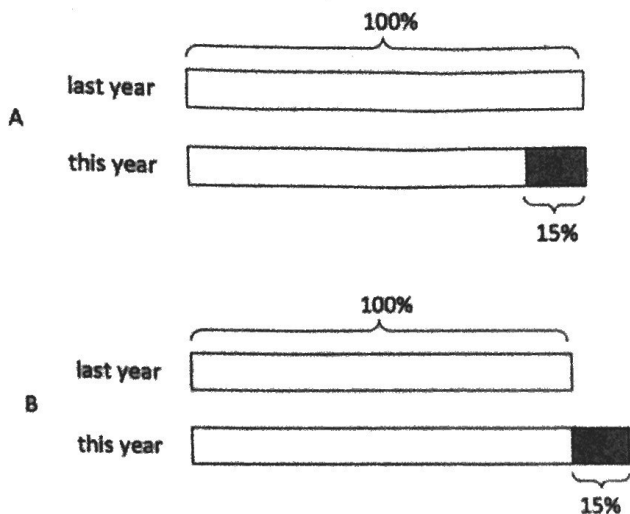
NAME

DATE

PERIOD

9.1 Warm-Up (continued) 2 mins

5. Match each diagram to a situation. The diagrams can be used more than once.



(from Unit 4, Lesson 6)

1. The amount of apples this year decreased by 15% compared with last year's amount.

A

2. The amount of pears this year is 85% of last year's amount.

A

3. The amount of cherries this year increased by 15% compared with last year's amount.

B

4. The amount of oranges this year is 115% of last year's amount.

B

## 9.2: Waiting Tables 10 mins. Groups of 2

m.openup.org/17-4-9-2

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? 25%

$$\frac{10}{40} = 0.25 = 25\%$$

b. appetizers? 32.5%

c. entrées? 42.5%

Do NOT ROUND!

If round up, will total to 101%.

2. What do your percentages add up to? → Exactly 100 always.

100%

per | cent

etc

NAME

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10 mins. 5 mins work  
5 mins discuss

Strategies → using 1% to find 0.1%  
or making substitutions to complete unknown #'s

9.3: Fractions of a Percent

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

Q: What would 10% of 60 be? (6)

30% of 60  
18

3% of 60  
1.8

0.3% of 60  
0.18

0.03% of 60  
0.018

Each percentage is  $\frac{1}{10}$  of the previous percentage.

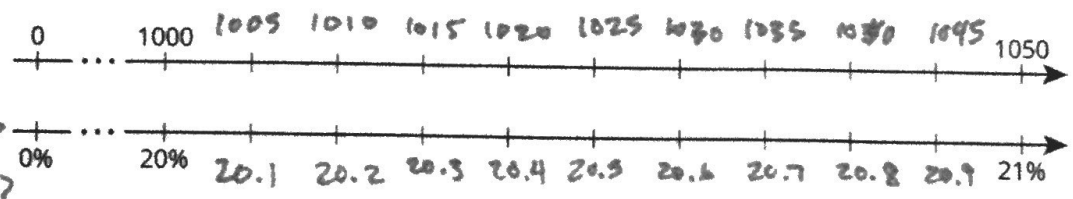
2. 20% of 5,000 is 1,000 and 21% of 5,000 is 1,050. Find each percentage of 5,000 and be prepared to explain your reasoning. If you get stuck, consider using the double number line diagram.

a. 1% of 5,000 50

b. 0.1% of 5,000 5

c. 20.1% of 5,000 1,005

d. 20.4% of 5,000 1,020



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 12.08

b. 15.7% of 80 12.56

1% of 80 is 0.8 because 16% - 15% = 1%  
so 12.8 - 12 = 0.8  
so 12 + 0.08 = 12.08

$12 + 7 \times (0.08) = 12.56$

NAME \_\_\_\_\_

DATE \_\_\_\_\_

PERIOD \_\_\_\_\_

*OPTIONAL*

**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?

*262,440*

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?

*7,207,200*

*9.5  
Extra  
Practice*

1. The student government snack shop sold 32 items this week.

snack type	number of items sold
fruit cup	8
veggie sticks	6
chips	14
water	4

*25%  
18.75%  
43.75%  
12.5%*

For each snack type, what percentage of all snacks sold were of that type?

4. A bakery used 30% more sugar this month than last month. If the bakery used 560 kilograms of sugar last month, how much did it use this month?  
(from Unit 4, Lesson 7)

*728 kilograms of sugar*

