Percent of a Number

Day 1

Warm UP

1. Order these from least to greatest.

45%; 4.5%; 450%; 4/5

2. Amee takes her resting heart rate and counts 8 beats in 6 seconds. Use a proportion to find the number of beats in one minute. Then write this as a rate beats/minute.

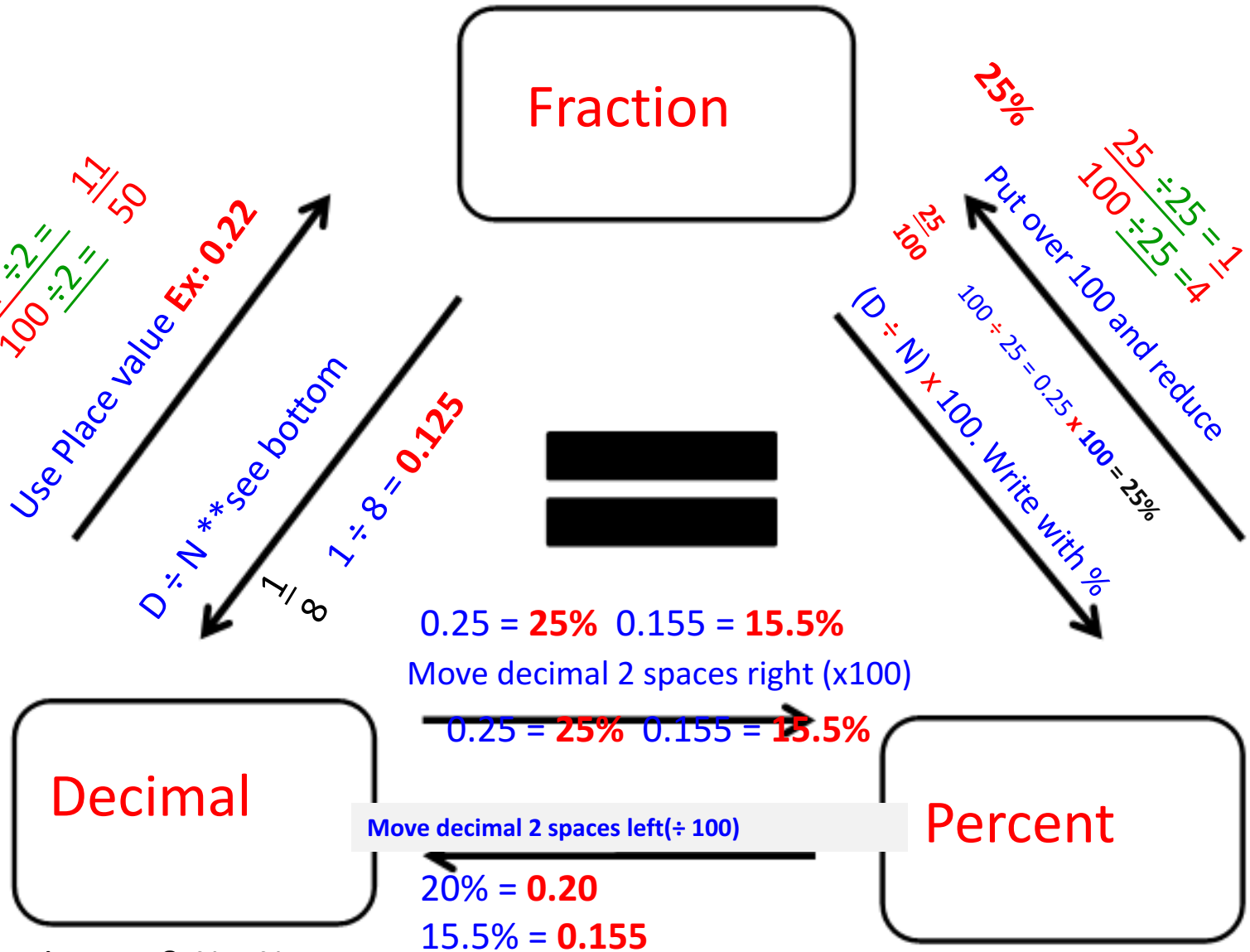
Standard:

MCC7.RP.3: Use proportional relationships to solve multistep ratio and percent problems.

Essential ?

How can a proportion be used to solve a problem involving percent?

Converting Rational Numbers



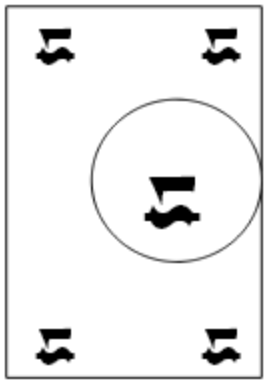
D = Denominator & N = Numerator

Stand up if you think the following is true. Be ready to explain.

- Percent means a part out of 100.
- If we say a $50 sweater is 50% off, that means the sweater cost $0.
- 50% of our class is 18 people.

1. I got 25 % off the cost of a shirt.

100%
90%
80%
70%
60%
50%
40%
30%
20 %
10 %



2. My sister is about 70% my height.

100%
90%
80%
70%
60%
50%
40%
30%
20 %
10 %

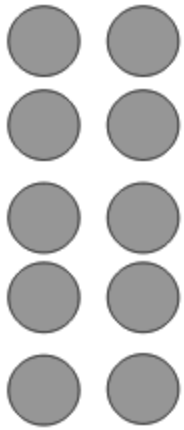
3. I got 80% of the problems on my last test correct.

100%
90%
80%
70%
60%
50%
40%
30%
20 %
10 %

%Test	Name
1. xxx	2. xxx
3. xxx	4. xxx
5. xxx	6. xxx
7. xxx	8. xxx
9. xxx	10. xxx
11. xxx	12. xxx
13. xxx	14. xxx
15. xxx	16. xxx
17. xxx	18. xxx
19. xxx	20. xxx

4. I ate 10% of the cookies.

100%
90%
80%
70%
60%
50%
40%
30%
20 %
10 %



Use the table to answer the following.

a. 25% of 20
b. 40% of 30
c. 10% of 50
d. 75% of 10

Total %		Total #
100%		
90%		
80%		
70%		
60%		
50%		
40%		
30%		
20%		
10%		
0%		0

Use the table to answer the following.

a. 30/40 is what %?
b. 12/48 is what %?
c. 10/25 is what %?
d. 1/12 is what %?

Total %		Total #
100%		
90%		
80%		
70%		
60%		
50%		
40%		
30%		
20%		
10%		
0%		0

If The World Were A Village

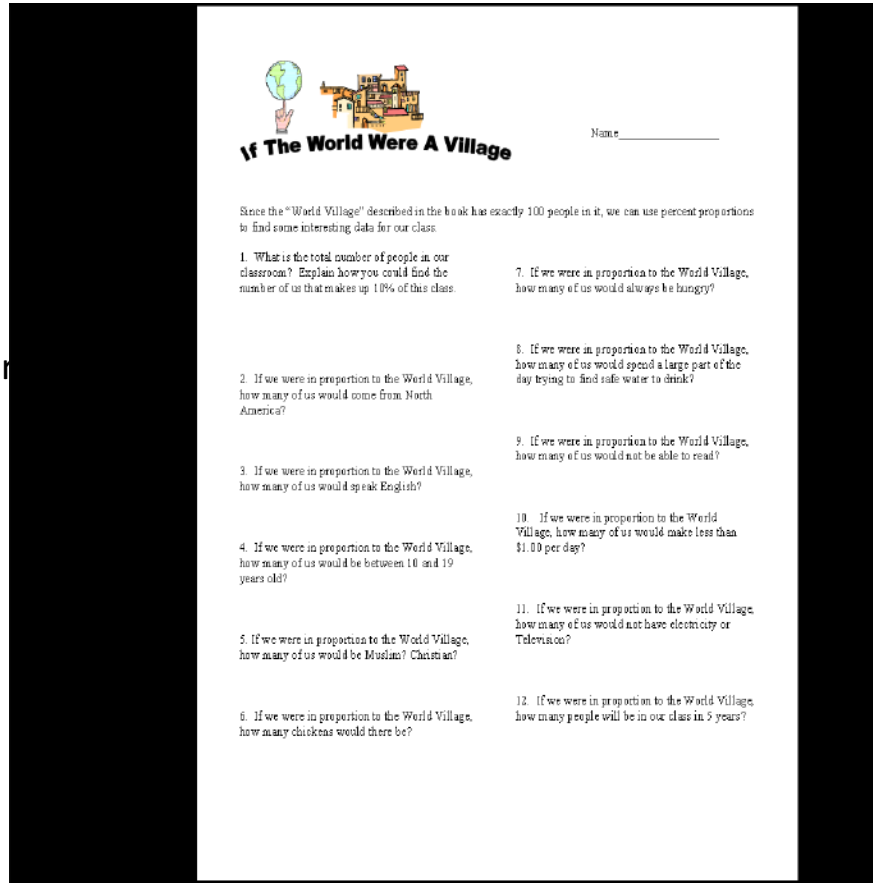
Facts

- World Village Facts 2002
- If the world were shrunk to a village of 100 peop
- le where all conditions were proportional, these
- are the facts about the village:
- 5 would be from North America
- 9 would speak English
- 19 are between the ages of 10 and 19
- 19 are Muslims. 32 are Christians
- 189 chickens are in our Village
- 60 are always hungry
- 25 spend a large part of the day looking for safe water
- 17 of the 88 people old enough
- to read, can't read at all
- 20 make less than $1.00 per day
- 24 have no electricity and no water
- The size of our class would double every five years.

Finish worksheet for homework.

Video

Use the facts from the video to complete the worksheet.



If The World Were A Village

Name_____

Since the "World Village" described in the book has exactly 100 people in it, we can use percent proportions to find some interesting data for our class.

1. What is the total number of people in our classroom? Explain how you could find the number of us that makes up 1.0% of this class.

2. If we were in proportion to the World Village, how many of us would come from North America?

3. If we were in proportion to the World Village, how many of us would speak English?

4. If we were in proportion to the World Village, how many of us would be between 10 and 19 years old?

5. If we were in proportion to the World Village, how many of us would be Muslim? Christian?

6. If we were in proportion to the World Village, how many chickens would there be?

7. If we were in proportion to the World Village, how many of us would always be hungry?

8. If we were in proportion to the World Village, how many of us would spend a large part of the day trying to find safe water to drink?

9. If we were in proportion to the World Village, how many of us would not be able to read?

10. If we were in proportion to the World Village, how many of us would make less than $1.00 per day?

11. If we were in proportion to the World Village, how many of us would not have electricity or Television?

12. If we were in proportion to the World Village, how many people will be in our class in 5 years?

Percent of a Number

Day 2

Kuta Software - Infinite Algebra 1

Solving Proportions

Warm UP

Per

Solve each proportion.

1) $\frac{10}{8} = \frac{n}{10}$

2) $\frac{7}{5} = \frac{x}{3}$

3) $\frac{9}{6} = \frac{x}{10}$

4) $\frac{7}{n} = \frac{8}{7}$

Standard:

MCC7.RP.3: Use proportional relationships to solve multistep ratio and percent problems.

Essential ?

How can a proportion be used to solve a problem involving percent?

The Percent Proportion(s)

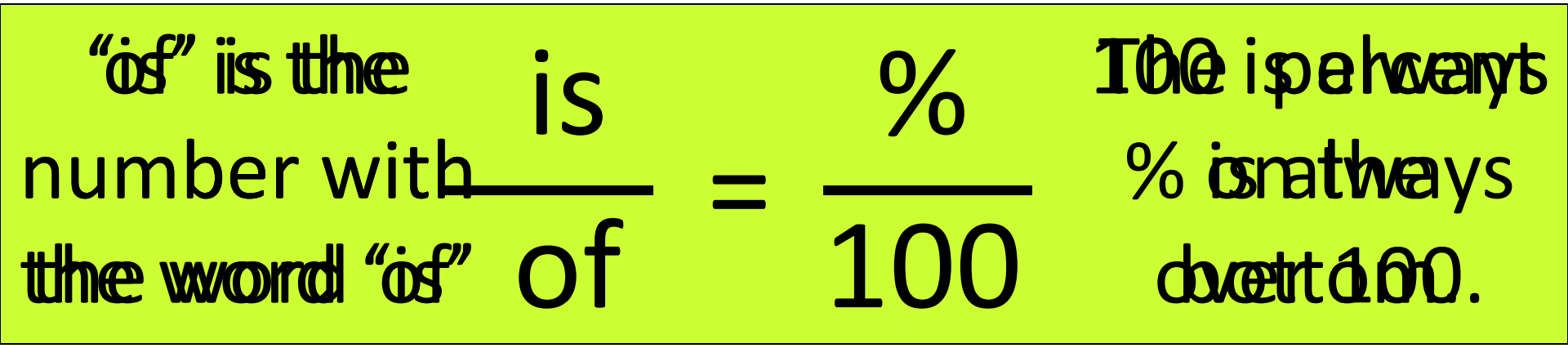
$$\frac{\text{is}}{\text{of}} = \frac{\%}{100}$$

"is" is the number with the word "is"

"of" is the number with the word "of"

100 is always over 100.

% is always over 100.



This proportion can be used when dealing with simple percent statements such as:

"What is 10% of 100?"

"10 is what percent of 100?"

"10 is 10% of what number?"

What is 85% of 40?

Use the proportion. $\frac{\text{is}}{\text{of}} = \frac{\%}{100}$

$$\frac{x}{40} = \frac{85}{100}$$

Cross multiply to get the answer.

x = 34

34 is 85% of 40

50 is what percent of 230?

- Use the proportion.

$$\frac{\text{is}}{\text{of}} = \frac{\%}{100}$$

$$\frac{50}{230} = \frac{x}{100}$$

21.73913043

or

x = 21.7%

Cross multiply to get the answer.

50 is 21.7% of 230

25% of what number is 400?

Use the proportion. $\frac{\text{is}}{\text{of}} = \frac{\%}{100}$

$$\frac{400}{x} = \frac{25}{100}$$

Cross multiply to get the answer.

x = 1600

25% of 1600 is 400

What is 175% of 80?

Use the proportion. $\frac{\text{is}}{\text{of}} = \frac{\%}{100}$

$$\frac{x}{80} = \frac{175}{100}$$

Cross multiply to get the answer.

x = 140

140 is 175% of 80

What percent of 256 is 64?

Use the proportion. $\frac{\text{is}}{\text{of}} = \frac{\%}{100}$

$$\frac{64}{256} = \frac{x}{100}$$

Cross multiply to get the answer.

x = 25%

25% of 256 is 64

- 19 is 25% of what number?
- What percent of 256 is 64?
- What is 45% of 178?

Video

Complete Practice Worksheet. – 10 min.