

Name: _____

Date: _____

PERCENT OF A NUMBER

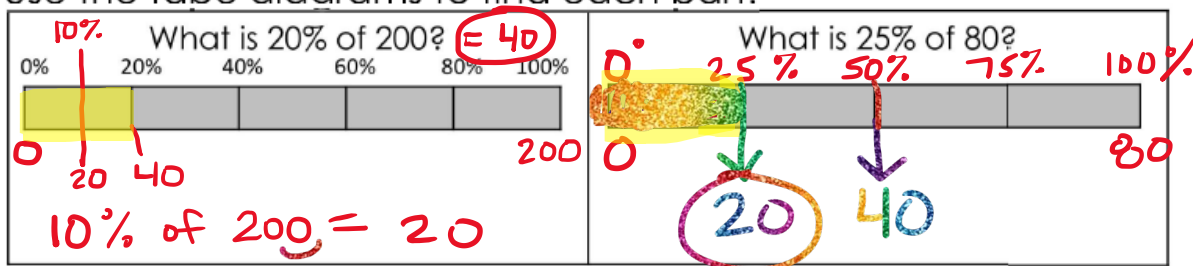
GUIDED NOTES

IMPORTANT VOCABULARY:

- **Percent:** A ratio that compares a number to 100.

PERCENT OF A NUMBER

1. To find the percent of a number means to find the part given the whole and percent.
2. You can use tape diagrams to find percent of a number.
3. Divide and label the tape diagram by the percent.
4. Then divide and label the tape diagram by the whole.
5. Use the tape diagrams to find each part.



6. To find percent of a number, change the percent to a fraction or decimal.
7. Then, multiply by the whole.
8. The percent times the whole equals the part.

GUIDED PRACTICE

| | |
|---|--|
| <p>What is 10% of 45?</p> <p>45</p> <p>4.5</p> | <p>What is 32% of 60?</p> <p>60</p> <p>10% = 6</p> <p>10% = 6</p> <p>10% = 6</p> <p>1% = .6</p> <p>1% = .6</p> <p>Add up</p> <p>$\begin{array}{r} 120 \\ + 180 \\ \hline 300 \end{array}$</p> |
| <p>What is 5% of 120?</p> <p>10% of 120 = 12</p> <p>5% of 120 = 6</p> | <p>What is 25% of 80?</p> <p>80</p> <p>10% = 8</p> <p>10% = 8</p> <p>+ 5% = 4</p> <p>25% = 20</p> <p>$\begin{array}{r} 400 \\ - 160 \\ \hline 240 \end{array}$</p> |

HOMEWORK is on Khan Academy

Name: _____

Scratch work required

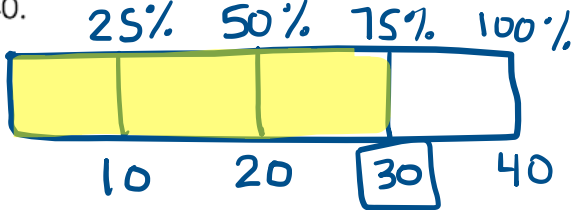
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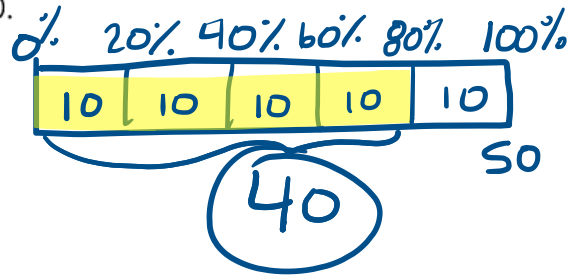
PERCENT OF A NUMBER

PRACTICE PROBLEMS

#1 Use a tape diagram to find 75% of 40.



#2 Use a tape diagram to find 80% of 50.



#3 What is 75% of 120?

90

$$\begin{array}{r} 120 \\ \times .75 \\ \hline 600 \\ + 8400 \\ \hline 90.00 \end{array}$$

#4 What is 8% of 90?

7.2

$$\begin{array}{r} 90 \\ \times .08 \\ \hline 720 \\ + 000 \\ \hline 7.20 \end{array}$$

#5 George took a 30 question math quiz. She got 10% of the questions incorrect. How many questions did she get incorrect?

10% of 30

3 questions

#6 Carol's bill for lunch was \$15. She wants to leave a 20% tip. What is 20% of bill?

20% of 15

$$\begin{array}{r} 10\% = 1.5 \\ + 1.5 \\ \hline 3.0 \end{array}$$

\$3

$$\begin{array}{r} 15 \\ \times .2 \\ \hline 3.0 \end{array}$$

#7 85 girls try out for the volleyball team. Only 40% of the girls will make the team. How many girls will make the volleyball team?

$$\begin{array}{r} 10\% = 8.5 \\ 8.5 \\ + 8.5 \\ \hline 17.0 \end{array}$$

$$\begin{array}{r} 85 \\ \times .4 \\ \hline 34.0 \end{array}$$

34 girls

#8 There are 135 students in the school orchestra. About 12% of the members of the orchestra play the violin. How many students play the violin? Round your answer to the nearest whole number.

$$\begin{array}{r} 10\% = 13.5 \\ 1\% = 1.35 \\ + 1.35 \\ \hline 16.20 \end{array}$$

$$\begin{array}{r} 135 \\ \times .12 \\ \hline 270 \\ + 1350 \\ \hline 16.20 \end{array}$$

16.20

16



Essential Question

How do you use percents to solve real-world problems?

FINDING THE MISSING PIECE

Either



or



across by the same number to find the missing piece.

PERCENT PROPORTION

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100}$$

part **P** = **%** part
whole **W** 100 whole

Find 78% of 50.

$$\begin{array}{r} 50 \\ \times .78 \\ \hline 400 \\ + 3500 \\ \hline 39.00 \end{array}$$

39

Sarah has finished reading 65% of her book that is 300 pages long. How many pages has she read?

$$\begin{array}{r} 300 \\ \times .65 \\ \hline 1500 \\ + 18000 \\ \hline 19500 \end{array}$$

195

pages

Find 48% of 250.

$$\begin{array}{r} 250 \\ \times .48 \\ \hline 2000 \\ + 10000 \\ \hline 120.00 \end{array}$$

120

Ashton leaves a 22% tip on a bill that is \$20. How much did he tip?

$$\begin{array}{r} 20 \\ \times .22 \\ \hline 40 \\ + 400 \\ \hline 4.40 \end{array}$$

\$4.40

MISSING PART

HW is on Khan Academy, scratch paper required!

18 is 3% of what number?

$$\frac{P}{W} = \frac{\%}{100}$$

600

$$\frac{18}{?} = \frac{3}{100}$$

David is 60% done with his homework. He has worked on it for 15 minutes so far. How long will David spend on his homework?

$$\frac{P}{W} = \frac{\%}{100}$$

25 minutes

$$\frac{15}{25} = \frac{60}{100}$$

MISSING WHOLE

80% of what number is 32?

$$\frac{32}{40} = \frac{80}{100}$$

$$32 \times 100 = 3200$$

The Smiths have drove 32 miles. This is 24% of their road trip. How many miles long is the road trip?

1300

$$\frac{32}{1300} = \frac{24}{100}$$

what percent of 200 is 150?

$$\frac{P}{W} = \frac{\%}{100}$$

75%

$$\frac{150}{200} = \frac{75}{100}$$

Mya answered 18 out of 25 questions right on the last math quiz. What percent is this?

$$\frac{P}{W} = \frac{\%}{100}$$

$$\frac{18}{25} \times 4 = \frac{72}{100}$$

$$\frac{18}{25} = \frac{72}{100}$$

MISSING PERCENT

4 is what percent of 20?

$$\frac{4}{20} = \frac{20}{100}$$

20%

Jake received \$90 off a \$300 video game system. What percent discount did he receive?

30%

$$\frac{90}{300} = \frac{30}{100}$$