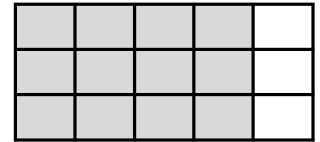Name _____

Date _____ Pd_____

INTRO TO PERCENTS

Leona and Paris were looking at a model in Mrs. Henry's class. Leona says that the model represents 12% because 12 squares were shaded. Paris says that isn't true. How could Paris explain her reasoning to Leona?
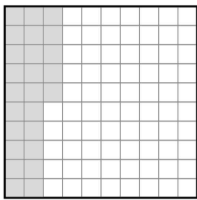
PERCENTAGES

- Percent is a part to whole ratio, where the whole is always _____.

- Percents can be written as a _____ out of 100 or a _____.

    Ex: 78% = $\frac{78}{100}$ = "seventy-eight hundredths" = 0.78

    Ex: $\frac{3}{5}$ → 5 ⟌ 3 → 0.60 → 60%

Write the fraction, decimal, and percent representation for each model below.
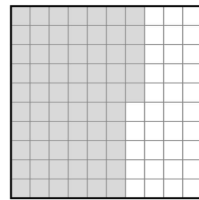
1.

fraction: _____

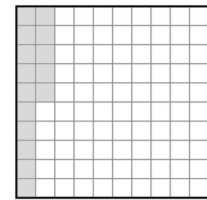decimal: _____

percent: _____

2.

fraction: _____

decimal: _____

percent: _____

3.

fraction: _____

decimal: _____

percent: _____

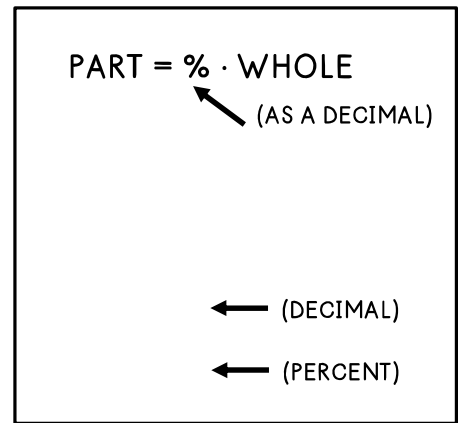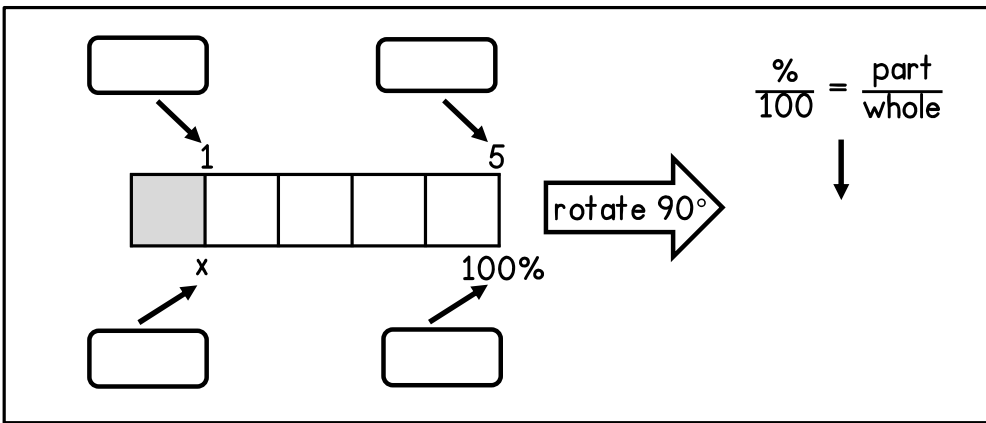## SOLVING PERCENT PROBLEMS

- Percent problems can be solved using proportions or equations.

- Set up a _____ using the formula below and then solve like a proportion.

    $$\frac{\%}{100} = \frac{PART}{WHOLE}$$

- Plug the given values into the _____ and then solve for the missing value.

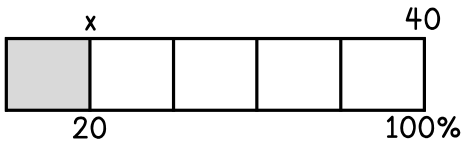 $$PART = \% \cdot WHOLE$$
    (AS A DECIMAL)

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

PART = % · WHOLE
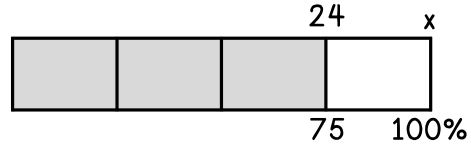(AS A DECIMAL)

(DECIMAL)

(PERCENT)

Use your understanding of proportions to set up a percent proportion and solve.

4. Use the tape diagram below to set up a proportion and/or equation.	5. Use the tape diagram below to set up a proportion and/or equation.

4. Use the tape diagram below to set up a proportion and/or equation.

x   40

20   100%

5. Use the tape diagram below to set up a proportion and/or equation.

24   x

75   100%

Use your understanding of percent proportions and percent equations to solve the questions below.

6. What number is 12% of 315?	7. 60% of what number is 45?	8. What percent of 40 is 25?

9. Kai knows that 50% of a number is 20. How could he use that information to determine what 150% of the number is?

_____

_____

10. Five proportions are given below. Put a check mark next to the proportion(s) Jay could use to solve the problem, "What is 36% of 150?"

$$\frac{x}{150} = \frac{36}{100}$$ $$\frac{150}{x} = \frac{36}{100}$$ $$\frac{36}{x} = \frac{15}{10}$$ $$\frac{x}{36} = \frac{150}{100}$$ $$\frac{36}{150} = \frac{x}{100}$$
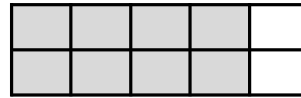
Summarize today's lesson:

Name _____

Date _____Pd_____

INTRO TO PERCENTS

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1. Which of the following proportions could be used to find, "42 is 35% of what number?"

a. $\frac{35}{100} = \frac{x}{42}$ c. $\frac{x}{35} = \frac{42}{100}$

b. $\frac{35}{x} = \frac{42}{100}$ d. $\frac{35}{100} = \frac{42}{x}$

---

2. What does the shaded portion represent?

fraction: _____

decimal: _____

percent: _____

Use your understanding of percent proportions and percent equations to solve the questions below.

---

3. 36 is 30% of what number?

_____

4. What percent of 88 is 33?

_____

5. What number is 65% of 840?

_____

6. What is 125% of 64?

_____

7. 120% of what number is 54?

_____

8. 19 is what percent of 95?

_____

---

9. Mr. Glover wrote the problem, "Find 16% of 50" on the whiteboard and asked students to create a proportion or equation to solve the problem. Circle the name of anyone who made a true statement.

MAXINE

I can use the proportion $\frac{x}{50} = \frac{16}{100}$ to solve.

THEO

I can find 16% because I can divide 50 by 16.

BRYAN

I know that 16% of 50 is going to be less than 10, because 10% is 5 and 20% is 10.

ELAINE

I can change 16% to 1.6 and multiply it by 50.