REVIEW: The Percent Equation
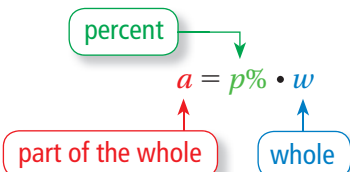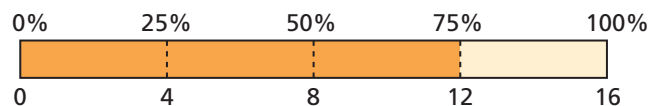
Name _____

Key Concept and Vocabulary

You can use an equation to represent "a is p percent of w."

Percent equation

percent

$$a = p\% \cdot w$$

part of the whole   whole

Visual Model

0%	25%	50%	75%	100%
0	4	8	12	16

12 is 75% of 16.

Skill Examples

1. 12 is what percent of 80?

$$12 = p\% \cdot 80$$

$$\frac{12}{80} = \frac{p\% \cdot 80}{80}$$

$$0.15 = p\%$$

So, 12 is 15% of 80.

2. What number is 45% of 40?

$$a = \frac{45}{100} \cdot 40$$

$$a = 18$$

So, 18 is 45% of 40.

Application Example

3. You earn 34 points on a test, which is 85% of the total points. How many points is the test worth?

$$34 = 0.85 \cdot w$$

$$\frac{34}{0.85} = \frac{0.85 \cdot w}{0.85}$$

$$40 = w$$

The test is worth 40 points.

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Check your answers at BigIdeasMath.com.

Write and solve an equation to answer the question.

4. 18 is what percent of 90?

$$18 = p\% \cdot 90; \; 20\%$$

5. 66 is what percent of 120?

$$66 = p\% \cdot 120; \; 55\%$$

6. What number is 42% of 50?

$$a = \frac{42}{100} \cdot 50; \; 21$$

7. 34 is 40% of what number?

$$34 = 0.40 \cdot w; \; 85$$

8. 180 is 75% of what number?

$$180 = 0.75 \cdot w; \; 240$$

9. 55 is what percent of 125?

$$55 = p\% \cdot 125; \; 44\%$$

10. BASEBALL Of the 25 players on a baseball team, 12 are pitchers. What percent of the players are pitchers?

48%

11. SURVEY Students are asked whether they prefer math or science. Of the 120 students surveyed, 65% prefer math. How many of the students prefer science? 42 students