

Name _____

Key

Date Due

Given 2/6

MATH STUDY GUIDE-CHAPTER 6-PERCENTS

Complete the work inside the boxes under the problem. Circle your answer.

1. What is 72% of 18?

$$\begin{array}{ccccccc} \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & & \\ x & = & 0.72 & \cdot & 18 & & \\ & = & 12.96 & & & & \end{array}$$

Multiply.

-OR-

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

$$x = 72 \cdot 18 \div 100 = 12.96$$

2. 48 is what percent of 80?

$$\frac{48}{80} = \frac{x}{100}$$

Divide by 80

$$0.6 = x$$

What percent is this?

Move 2 places to the right to get percent:

$$0.60 = 60\% \quad \text{-OR-} \quad \frac{48}{80} = \frac{x}{100}$$

3. 8 is what percent of 40?

$$\frac{8}{40} = \frac{x}{100}$$

Divide by 40.

$$0.2 = x$$

What percent is this?

$$0.20 = 20\%$$

-OR-

$$\frac{8}{40} = \frac{x}{100}$$

$$x = 20$$

4. 14 is 24% of what number?

$$\frac{14}{0.24} = \frac{24}{100} \cdot x$$

Divide by 0.24.

$$58.3 = x$$

Rounded to the tenth.

-OR-

$$\frac{14}{x} = \frac{24}{100}$$

$$x = 58.3$$

5. 15 is what percent of 250?

$$\frac{15}{250} = \frac{x}{100}$$

Divide by 250.

$$0.06 = x$$

What percent is this?

$$0.06 = 6\%$$

-OR-

$$\frac{15}{250} = \frac{x}{100} \quad x = 6$$

6. Find the percent of the number mentally. Show your steps.

10% of 110

Use the 10% rule:
Move decimal point one place left.

$$10\% = 110 \cdot 0.1 = 11.0 \text{ or } 11$$

7. Find the percent of the number mentally. Show your steps.

25% of 150

$$25\% \text{ is } \frac{1}{4}$$

$$\frac{1}{4} \text{ of } 150 \text{ is } 37.5$$

(I took $\frac{1}{2}$ of 150 to get 75, then half of 75 to get 37.5)

8. Find the percent of the number mentally. Show your steps.

30% of 65

Use the 10% rule:

$$10\% = 6.5 = 6.5$$

$$\begin{array}{r} \times 3 \\ 30\% = 19.5 \end{array}$$

9. Find the percent of the number mentally. Show your steps.

125% of 400

Break into parts:

$$100\% = 400$$

$$+ 25\% = \frac{1}{4} \text{ of } 400 = 100$$

$$125\% = 400 + 100 = 500$$

10. A video controller cost \$39. If a 6.75% sales tax is added, what is the total cost?

$$\text{Total cost} = \text{price} + \text{tax}$$

$$= 39 + 0.0675 \cdot 39$$

$$= 39 + 2.63$$

$$= \$41.63$$

<p>11. Estimate 73% of 120.</p> <p>Round 73% to 75% = $\frac{3}{4}$</p> <p>$\frac{3}{4}$ of 120 =</p> <p>$\frac{3}{4} \cdot \frac{120}{1} = 90$</p>	<p>12. Estimate 27% of 242.</p> <p>Round 27% to 25% = $\frac{1}{4}$</p> <p>Round 242 to 240</p> <p>$\frac{1}{4}$ of 240 =</p> <p>$\frac{1}{4} \cdot \frac{240}{1} = 60$</p>	<p>13. Marc purchases a lamp for \$140. Sales tax is 6% on all purchases. How much sales tax does Marc pay?</p> <p>Tax = $0.06 \cdot 140$</p> <p>= 8.4</p> <p>= \$8.40</p>
<p>14. Find the simple interest to the nearest cent.</p> <p>\$1,100 at 5% for 3 years</p> <p>$I = p \cdot r \cdot t$</p> <p>= $1100 \cdot 0.05 \cdot 3$</p> <p>= \$165</p> <p>Simple interest - use formula only <u>once</u>!</p>	<p>15. Find the total amount in each account to the nearest cent if the interest is compounded annually.</p> <p>\$2500 at 4% for 2 years</p> <p>$I = p \cdot r \cdot t$</p> <p>= $2500 \cdot 0.04 \cdot 1$ } 1 Year</p> <p>= \$100</p> <p>Add the \$100 interest to starting balance:</p> <p>$2500 + 100 = 2600$</p> <p>Use interest formula <u>twice</u>.</p> <p>$I = p \cdot r \cdot t$</p> <p>= $2600 \cdot 0.04 \cdot 1$ } 2 Year</p> <p>= \$104</p> <p>Add the \$104 interest to this year's starting balance:</p> <p>$2600 + 104 = \mathbf{\\$2704}$</p>	

STUDY THIS TABLE. It will help you with each kind of percent problem!

The table summarizes the three types of percent problems.

Concept Summary The Percent Equation		
Type	Example	Equation
Find the Percent	15 is what percent of 60?	$15 = p(60)$
Find the Part	What number is 25% of 60?	$a = 0.25(60)$
Find the Whole	15 is 25% of what number?	$15 = 0.25b$

STUDY THIS FORMULA. You need to know it for the test!

SIMPLE INTEREST:

$$I = p \cdot r \cdot t$$