Lesson 1: Introduction to Applications

"I can apply percentages to real world situations."

Unit Vocabulary

Sales Tax: An amount of money added to a total purchase determined by the county and state in which the purchase is made.

Tip: The amount of money earned by a person in the service industry for providing a particular service. Tips are usually given to waiters, valet, caddies, drivers and bellboys.

Commission: The amount of money earned by a salesperson for selling a product; typically based on a percentage of the price of the product.

Discount: An amount subtracted from the price of an item; a savings.

Most percent word problems can be solved using the proportion:

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

This important proportion will be adjusted for each of the problem types that follow.

~Neat Fact~

"Percent" comes from the Latin *Per Centum*. The Latin word *Centum* means 100, for example a Century is 100 years.

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Match the term to the example:

a) Sales Tax
b) Tip
c) Commission
d) Discount

b 1) Uncle Johnny gave his waiter $20.

c 2) Elvis got an extra $45 in his paycheck from his sales this week.

d 3) Mike used a coupon and only spent $13 instead of $22.

a 4) Even though I bought $10 worth of pencils, I had to pay $10.88.

b 5) Kent carried my bags up to my hotel room so I gave him $5.

d 6) Joyce bought a sequin top for 20% off.

c 7) Tommy made $340 plus his salary because he rented out a lot of apartments this week.

a 8) Porsche ordered three pairs of shoes for $20 each and was charged $65.25.

d 9) Phil only pays 50% because he is an employee.

b 10) Bill got to take home 20% of the value of his table's check.

Problem	Part	Percent	Whole
40% of the students on the field trip love the museum. If there are 20 students on the field trip, how many love the museum?	X	40	20
40% of the students on the field trip love the museum. If 20 students love the museum, how many are on the field trip?	20	40	X
20 students on the field trip love the museum. If there are 40 students on the field trip, what percent love the museum?	20	X	40

Find the following:

11) Kenny spent $6 out of $12. What percent of his money did he spend? 50%

$\frac{6}{12} = \frac{x}{100}$ $x = 50$

12) Todd had $44 in his wallet. He spent 30% of his money. How much money does he have left? (end) $13.20

$\frac{x}{44} = \frac{30}{100}$ $x = 13.2$

13) Peter spent 20% of his money. He has $40 left in his pocket. How much did he go out with? (start) $50

$\frac{40}{x} = \frac{100-20}{100}$ $\frac{40}{x} = \frac{80}{100}$ $x = 50$

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