# Unit III - First Degree Relations with Two Placeholders Part F - Problem Solving Using Two Placeholders Lesson 6 - "Percent" Problems 

For each of the following story problems, answer the four analysis questions to find the system of equations needed to solve. Then solve and use common sense to check your answer.

1. Nineteen, or $95 \%$, of the students in a first grade class have a pet. How many students are in the class?
2. A vacuum cleaner dealership pays $\$ 320$ for each unit, and sells the unit for $\$ 699$. What is the percent of mark-up?
3. A furniture store advertised a table at a $15 \%$ discount. The sale price was $\$ 100$. What was the original price?
4. The regular price of a color TV is $\$ 539.62$. During a sale, the TV is selling for $\$ 439$. Find the percent decrease in the price.
5. An investment is made at $9 \%$ simple interest for one year. It grows to $\$ 8502$. How much was originally invested?
6. Mike paid $\$ 1200$ for a new mountain bike at a $30 \%$ off sale. What was the original price?
7. Webb's Men's Wear sold coats for $\$ 84$ each. Originally the coats sold for $\$ 120$ each. What was the percent of markdown?
8. During his diet, Derrick cut his calorie consumption by $15 \%$, to 2100 calories per day. How many calories did Derrick cut from his daily diet?
9. The total cost of a camera, including an $8.5 \%$ sales tax, is $\$ 59$. How much tax was paid in this purchase?
10. The Richardsons bought a new car. The total amount they paid was $\$ 14,064.75$, including the $5 \%$ sales tax. What was the price before the sales tax was added?

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1. $C=20$
2. $P=118 \%$
3. $P=\$ 117.65$
4. $P=18.6 \%$
5. The amount invested was $\$ 7800.00$
6. Original Price was $\$ 1714.29$
7. $30 \%=x$
8. Amount of calories originally consumed is 2470.588 .

Amount of calories cut is approximately 371.
9. The amount of tax is approximately $\$ 4.62$.
10. The original price was $\$ 13,395.00$

