

Finding a Percent of a Number

To find a percent of a number, write a percent sentence. Every percent sentence consists of three numbers: the rate, the whole, and the part.

$$\begin{array}{ccccc}
 & 20\% & \text{of} & 48 & = & 9.6 \\
 \nearrow & & & \nearrow & & \nwarrow \\
 \text{rate} & & & \text{whole} & & \text{part}
 \end{array}$$

If the *part* is missing in a percent problem, solve by first changing the *rate* to a decimal. Then multiply the rate by the *whole*.

Remember, "of" means multiply.

Find: 25% of 84

$$\begin{array}{l}
 25\% \times 84 = ? \\
 25\% = 0.25 \\
 0.25 \times 84 = 21
 \end{array}
 \qquad
 \begin{array}{r}
 84 \\
 \times 0.25 \\
 \hline
 420 \\
 1680 \\
 \hline
 21.00
 \end{array}$$

Find: 105% of 280

$$\begin{array}{l}
 105\% \times 280 = ? \\
 105\% = 1.05 \\
 1.05 \times 280 = 294
 \end{array}
 \qquad
 \begin{array}{r}
 280 \\
 \times 1.05 \\
 \hline
 1400 \\
 0000 \\
 \hline
 28000 \\
 294.00
 \end{array}$$

Change each percent to a decimal. Solve.

- | | | | | |
|--------------------------------------|------------|------------|------------|------------|
| 1. 50% of 90
$0.5 \times 90 = 45$ | 300% of 60 | 50% of 60 | 75% of 120 | 35% of 60 |
| 2. 80% of 120 | 75% of 80 | 10% of 180 | 20% of 60 | 25% of 45 |
| 3. 40% of 75 | 90% of 200 | 25% of 80 | 21% of 200 | 60% of 160 |
| 4. 250% of 100 | 99% of 55 | 25% of 400 | 40% of 150 | 14% of 500 |
| 5. 8% of 900 | 35% of 700 | 90% of 640 | 75% of 400 | 30% of 120 |
| 6. 36% of 125 | 5% of 860 | 15% of 450 | 45% of 40 | 10% of 90 |
| 7. 15% of 260 | 25% of 600 | 125% of 80 | 225% of 12 | 5% of 843 |

Problems Using Percents

Use percent to solve these word problems.

1. A real estate agent sold our house to Ira Brown for \$65,000. For her service in making the sale, the agent charged 5% of the sale price. How much did we have to pay the agent?

Answer _____

2. Thomas says that he spends 25% of his salary for rent. If his annual salary is \$24,000, how much total rent does he pay each year?

Answer _____

3. Thomas said that 30% of his earnings was spent for food. How much money does he spend in one year for food?

Answer _____

4. He also said that he spent 15% of his salary for clothing for the family. How much did he spend last year for clothing?

Answer _____

5. For insurance and savings Thomas said that he had set aside 20% of his salary. How much did he set aside last year?

Answer _____

6. Thomas also said that doctors, hospitals, medicine, and medical costs took 8% of his salary. How much was spent for these?

Answer _____

7. The Shamrock Motor Sales Co. sells 40% of all the cars sold in the town of Polanco. Last year 500 cars were sold in the town. How many were sold by the Shamrock Co.?

Answer _____

8. A bushel of potatoes weighs 60 pounds. It is said that 50% of this weight is made up by the water in potatoes. How many pounds of water are there in a bushel of potatoes?

Answer _____

9. A gallon of milk weighs (on the average) 8.6 pounds. Of this amount 75% is water. In the average gallon of milk, how much does the water weigh?

Answer _____

10. Butterfat makes up 4% of the milk. How many pounds of butterfat are there in the average gallon of milk?

Answer _____