

Percentages

Percent means “out of 100”.

The value 15% is the same as saying “15 out of 100”, or the fraction $\frac{15}{100}$.

Example 1: Determine 15% of 90.

Covert 15% to its equivalent decimal ($15 \div 100 = 0.15$, or “move the decimal point left to places”), and multiply.

$$0.15 \times 90 = 13.5.$$

Example 2: Add 20% to 360.

Option 1: Calculate 20% separately, then add:

$$0.20 \times 360 = 72; 360 + 72 = \mathbf{432}$$

Option 2: Calculate 120% (the original 100% plus another 20%) of 360 directly:

$$1.20 \times 360 = \mathbf{432}$$

Some Mental Math Tips

10% of any number is found by moving the decimal place one to the left. (i.e. 10% of 45 is 4.5)

1% of any number is found by moving the decimal place two to the left. (i.e. 1% of 45 is 0.45)

Example 3: Estimate 13% tax on an item costing \$79.95.

First, round to \$80.00

10% of \$80 is \$8.00

1% of \$80 is \$0.80, so 3% is \$2.40

The tax is about \$10.40, so the price after tax is about \$90.40. (The exact value is \$90.39.)