

# Activity 17 Assessment

## Using Mental Math to Calculate Percents

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Calculates a benchmark percent

$$\begin{aligned}
 10\% \text{ of } 350 &= \frac{10}{100} \times 350 \\
 &= \frac{1}{10} \times 350 \\
 &= 35
 \end{aligned}$$

Uses benchmark percents to calculate another percent

$$37\% = 3(10\%) + 5\% + 2(1\%)$$

For 37% of 240:

$$10\% \text{ of } 240 = 24$$

$$5\% \text{ of } 240 = 12$$

$$1\% \text{ of } 240 = 2.4$$

$$\begin{aligned}
 \text{So, } 37\% \text{ of } 240 &= 3(24) + 12 + 2(2.4) \\
 &= 88.8
 \end{aligned}$$

Determines a percent increase of a number

The price of a T-shirt is \$19.99.

The sales tax is 13%.

What does it cost to buy the shirt?

The cost is 113% of \$19.99.

$$100\% \text{ of } \$19.99 = \$19.99.$$

$$10\% \text{ of } \$19.99 = \$1.999 \approx \$2.00$$

$$1\% \text{ of } \$19.99 \approx \$0.20$$

So, the cost of the T-shirt is about:

$$\$19.99 + \$2.00 + \$0.60 = \$22.59$$

Determines a percent decrease of a number

The price of a pair of sneakers is \$39.99.

They are on sale for 35% off.

What is the cost of the sneakers before tax?

The cost is 65% of \$39.99.

$$50\% \text{ of } \$39.99 \approx \$20.00$$

$$10\% \text{ of } \$39.99 \approx \$4.00$$

$$5\% \text{ of } \$39.99 \approx \$2.00$$

So, the cost of the sneakers is about:

$$\$20.00 + \$4.00 + \$2.00 = \$26.00$$

### Observations/Documentation