

# Activity 17 Assessment

## Using Mental Math to Calculate Percents

### Calculating Percents using Mental Math

Explores number patterns and relationships.

$$\begin{aligned} 100\% \text{ of } 360 &= 360 \\ 50\% \text{ of } 360 &= 180 \\ 25\% \text{ of } 360 &= 90 \\ 12.5\% \text{ of } 360 &= 45 \end{aligned}$$

What patterns do you see?

"I see that the percent is halved each time and when this happens, the product is also halved."

Uses number patterns and relationships to solve problems.

$$50\% \text{ of } 80 = ?$$

10% is the same as 0.1 and  
50% is the same as 0.5.

$$\begin{aligned} \text{So, } 50\% \text{ of } 80 &= 5 \times 0.1 \times 80 \\ &= 5 \times 8 \\ &= 40 \end{aligned}$$

Uses mental math strategies and checks for reasonableness.

$$\begin{aligned} \text{Find } 14\% \text{ of } \$300 \\ 14\% &= 10\% + 5\% - 1\% \\ 10\% \text{ of } \$300 &= \$30 \\ 5\% \text{ of } \$300 &= \$15 \\ 1\% \text{ of } \$300 &= \$3 \\ \text{So, } 14\% \text{ of } \$300 &= \$30 + \$15 - \$3 \\ &= \$42 \end{aligned}$$

Fluently calculates percents using a variety of mental math strategies.

$$8\% \text{ of } 260 = ?$$

$$\begin{aligned} 8\% \text{ of } 260 &= (10\% - 2\%) \text{ of } 260 \\ &= 10\% \text{ of } 260 - 2\% \text{ of } 260 \\ &= 26 - 2(2.6) \\ &= 26 - 5.2 \\ &= 20.8 \end{aligned}$$

### Observations/Documentation