

Lesson 2 Reteach

Percent and Estimation

To estimate the percent of a number, you can use a fraction or a multiple of 10% or 1%.

Example 1

Estimate 77% of 800.

77% is about 75% or $\frac{3}{4}$.

$$\begin{aligned} 77\% \text{ of } 800 &\approx \frac{3}{4} \cdot 800 \\ &\approx 600 \end{aligned}$$

Use $\frac{3}{4}$ to estimate.

Multiply.

So, 77% of 800 is about 600.

Example 2

Estimate 137% of 50.

137% is more than 100%, so 137% of 50 is greater than 50. $137\% \approx 140\%$.

$$\begin{aligned} 140\% \text{ of } 50 &= (100\% \text{ of } 50) + (40\% \text{ of } 50) \\ &= (1 \cdot 50) + \left(\frac{2}{5} \cdot 50\right) \\ &= 50 + 20 \text{ or } 70 \end{aligned}$$

$$140\% = 100\% + 40\%$$

$$100\% = 1 \text{ and } 40\% = \frac{2}{5}$$

Simplify.

So, 137% of 50 is about 70.

Example 3

Estimate 0.5% of 692.

0.5% is half of 1%. 692 is about 700.

$$\begin{aligned} 1\% \text{ of } 700 &= 0.01 \cdot 700 \\ &= 7 \end{aligned}$$

To multiply by 1%, move the decimal point two places to the left.

One half of 7 is $\frac{1}{2} \cdot 7$ or 3.5.

So, 0.5% of 697 is about 3.5.

Exercises 1–9. Sample answers are given.

Estimate.

1. 24% of 36

$$\frac{1}{4} \cdot 36 = 9$$

2. 81% of 25

$$\frac{4}{5} \cdot 25 = 20$$

3. 11% of 67

$$0.1 \cdot 70 = 7$$

4. 150% of 179

$$(1 \cdot 180) + \left(\frac{1}{2} \cdot 180\right) = 270$$

5. 67% of 450

$$\frac{2}{3} \cdot 450 = 300$$

6. 79% of 590

$$\frac{3}{4} \cdot 600 = 450$$

7. 0.4% of 200

$$0.01 \cdot 200 = 2 \text{ and}$$

$$\frac{1}{2} \cdot 2 = 1$$

8. 42% of 61

$$0.1 \cdot 60 = 6 \text{ and}$$

$$4 \cdot 6 = 24$$

9. 19% of 41

$$0.1 \cdot 40 = 4 \text{ and}$$

$$2 \cdot 4 = 8$$