NAME _____ DATE _____ PERIOD _____

7-3 Study Guide and Intervention

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 $\frac{3}{4}$.

$77\% \text{ of } 800 \approx \frac{3}{4} \cdot 800$ Use $\frac{3}{4}$ to estimate.

≈ 600 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% is about 140%.

$140\% \text{ of } 50 = (100\% \text{ of } 50) + (40\% \text{ of } 50)$ 140% = 100% + 40%

$= (1 \cdot 50) + \left(\frac{2}{5} \cdot 50\right)$ 100% = 1 and 40% = $\frac{2}{5}$

$= 50 + 20 \text{ or } 70$ 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.

$1\% \text{ of } 700 = 0.01 \cdot 700$ To multiply by 1%, move the decimal point two places to the left.

$= 7$

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

So, 0.5% of 697 is about 3.5.

Exercises

Estimate. 1–12. Sample answers are given.

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
   $0.01 \cdot 200 = 2$ and $\frac{1}{2} \cdot 2 = 1$
8. 42% of 61
   $0.1 \cdot 60 = 6$ and $4 \cdot 6 = 24$
9. 19% of 41
   $0.1 \cdot 40 = 4$ and $2 \cdot 4 = 8$
10. 129% of 54
    $(1 \cdot 54) + \left(\frac{1}{3} \cdot 54\right) = 72$
11. 32% of 66
    $\frac{1}{3} \cdot 66 = 22$
12. 0.2% of 150
    $0.01 \cdot 150 = 1.5$ and $\frac{1}{5} \cdot 1.5 = 0.3$