

8-6 Estimation with Percents

Estimate each percent.

1) 22% of 197

Fraction Method

$$20\% \times 200$$

$$\frac{1}{5} \cdot \frac{40}{1} = \boxed{40}$$

10% Method

$$10\% \text{ of } 70 = 7$$

$$10\% \text{ of } 36.5 = 3.65$$

$$10\% \text{ of } 84 = 8.4$$

$$20\% \text{ of } 200$$

$$10\% \text{ of } 200 = 20$$

$$\begin{array}{r} \times 2 \\ \hline 40 \end{array}$$

$$\begin{array}{r} 70 \\ \times 0.10 \\ \hline 7.0 \end{array}$$

* Move dec
1 place
left

2) 53% of 1512

50% of 1500

$$\frac{1}{2} \cdot \frac{1500}{1} = \boxed{750}$$

50% of 1500

10% of 1500 = 150

$$\begin{array}{r} \times 5 \\ \hline \boxed{750} \end{array}$$

3) \$63.82 20% tip

\$64

10% of 64 = 6.4

$$\boxed{\$12.80}$$

④ \$123.63 15% tip

\$124

10% of 124 = 12.4

5% = 6.2

$\boxed{\$18.60}$

actual if were @ rest.

123.63

10% = 12.36

5% = 6.18

\$18.54

5) Bill \$48.31

\$50

20% tip

$$10\% \text{ of } 50 = 5$$

x 2

\$10

15% tip

$$10\% \text{ of } 50 = 5$$

5%

= 2.5

\$7.50

\$48

$$10\% \text{ of } 48 = 4.8$$

x 2

\$9.60

$$10\% \text{ of } 48 = 4.8$$

5%

= 2.4

\$7.20

6) 24% of 411

25% of 400

$$1 \frac{1}{4} \cdot \frac{400}{1} = \boxed{100}$$

OR

$$\begin{array}{r} 10\% \text{ of } 400 = 40 \\ 10\% \quad \quad \quad \times 2 \\ \quad \quad \quad \quad \quad 80 \\ 5\% \quad \quad \quad \quad + 20 \\ \hline \quad \quad \quad \quad \quad \boxed{100} \end{array}$$

7) 78% of 1189

80% of 1200

$$10\% \text{ of } 1200 = 120$$

$$\begin{array}{r} \times 8 \\ \hline \boxed{960} \end{array}$$

OR

80% of 1200

$$1 \frac{4}{5} \cdot \frac{1200}{1} = \boxed{960}$$