

THE FLEXIBLE ESTIMATOR

Be a flexible estimator!

- Look for short cuts.
- Look for ways of **getting closer**.
- Look for easy numbers to work with.



How did each person think?

About how much will 48 pencils cost?

$$\frac{1}{8} \text{ of } 48 = 6.$$

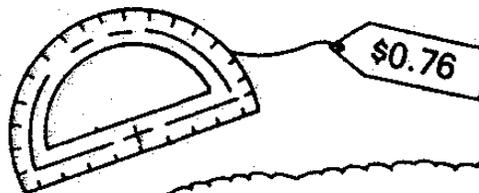
So, \$6.00

$$100 \times \$0.13 = \$13.00$$

So, $50 \times \$0.13 = \6.50

$$\$0.10 \times 50 = \$5.00$$

About how much will 42 protractors cost?



$$\frac{1}{4} \text{ of } 40 \text{ is } 10.$$

So, $\frac{3}{4} \text{ of } 40 \text{ is } 30.$

\$30.00

$$4 \times \$0.75 = \$3.00$$

So, $40 \times \$0.75 = \30.00

$$80 \times 40 = 3200$$

So, \$32.00

[Source: Estimation and Mental Computation-1986 Yearbook, National Council of Teachers of Mathematics]

There are many ways to estimate.

Tell how each person estimated.

$$\textcircled{\$6.39} + \textcircled{\$3.75} + \textcircled{\$5.98}$$



$\$6 + \$3 + \$5 = \14
over \$2 more
 $\$16.00 +$



$\$6 + \$4 + \$6 = \16.00
About \$16.00



$\$7 + \$4 + \$6 = \17
\$17-

When might you estimate like this?

Look before you leap

There are lots of ways to estimate, and good estimators stop and think before they start. Tell *which strategy* you would use and why.



Front-End?

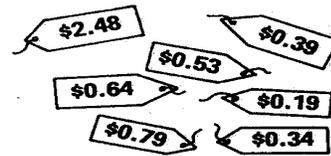
Rounding?

Grouping?

Clustering?

$$\begin{array}{r} \$98.25 \\ 49.50 \\ 29.75 \\ \hline \end{array}$$

$$\begin{array}{r} 392 \\ 1417 \\ 84 \\ +3198 \\ \hline \end{array}$$



Total: ?

$$\begin{array}{r} \$3.55 \\ \$2.90 \\ \$3.08 \\ \$3.19 \\ \$2.40 \\ \$2.99 \\ \hline ? \end{array}$$

$$\begin{array}{r} 697 \\ 299 \\ 392 \\ +189 \\ \hline ? \end{array}$$

$$\begin{array}{r} 4467 \\ -2698 \\ \hline ? \end{array}$$

[Source: Estimation and Mental Computation-1986 Yearbook, National Council of Teachers of Mathematics]