

## 4.2 The Distributive Property

What does it mean  
to Distribute  
Give to everyone

Multiplication

Is distributive

We use parentheses  
to show distribution

$$4 \cdot (2 + 3)$$

$$\begin{array}{r} 4(2 + 3) \\ 4 \cdot 2 + 4 \cdot 3 \\ 8 + 12 \\ 20 \end{array}$$

Algebra

$$a(b + c) = ab + ac$$

$$a(b - c) = ab - ac$$

$$\begin{array}{r} 3(5.23) \\ 3(5 + 0.2 + 0.03) \\ 3 \cdot 5 + 3 \cdot 0.2 + 3 \cdot 0.03 \\ 15 + 0.6 + 0.09 \\ 15.69 \end{array}$$

$$\begin{array}{r} 7(198) \\ 7(200 - 2) \\ 1400 - 14 \\ 1386 \end{array}$$

$$\begin{array}{l}
 7(1003) \\
 \overbrace{7(1000+3)} \\
 7000 + 21 \\
 7021
 \end{array}
 \qquad
 \begin{array}{l}
 7^3 \\
 \downarrow \\
 7(49) \\
 7(50-1) \\
 350 - 7 \\
 343
 \end{array}$$

$$\begin{array}{l}
 \overbrace{0.5(24+18)} \\
 12 + 9 \\
 21
 \end{array}$$

$$\begin{array}{l}
 \overbrace{5(x+5)} \\
 5 \cdot x + 5 \cdot 5 \\
 5x + 25 \\
 \overbrace{2(y-4)} \\
 2 \cdot y - 2 \cdot 4 \\
 2y - 8
 \end{array}$$

$$\begin{array}{l}
 P177-178 \\
 4-36 \text{ even}
 \end{array}$$