

DISTRIBUTIVE PROPERTY

$$2(11) = 22$$

$$\begin{aligned} &2(4+7) \\ &2 \cdot 4 + 2 \cdot 7 \\ &8 + 14 \\ &22 \end{aligned}$$

EXAMPLES:

$$1) 10 \cdot 23$$

$$\begin{aligned} &10(20+3) \\ &10 \cdot 20 + 10 \cdot 3 \\ &200 + 30 \\ &230 \end{aligned}$$

$$\begin{aligned} &10 \cdot 23 \quad 10(23) \\ &10 \times 23 \end{aligned}$$

$$2) 12 \cdot 41$$

$$\begin{aligned} &12(40+1) \\ &12 \cdot 40 + 12 \cdot 1 \\ &480 + 12 \\ &492 \end{aligned}$$

$$3) 11 \cdot 45$$

$$\begin{aligned} &11(40+5) \\ &11 \cdot 40 + 11 \cdot 5 \\ &440 + 55 \\ &495 \end{aligned}$$

$$4) 2 \cdot 123$$

$$\begin{aligned} &2(100+20+3) \\ &2 \cdot 100 + 2 \cdot 20 + 2 \cdot 3 \\ &200 + 40 + 6 \\ &246 \end{aligned}$$

$$5(10y) = 50y$$

$$\begin{aligned} 1) \quad & \underline{5(5y + 5y)} \\ & 5 \cdot 5y + 5 \cdot 5y \\ & 25y + 25y \\ & 50y \end{aligned}$$

$$\begin{aligned} 2) \quad & \underline{9(9x + 9y)} \\ & 9(9x) + 9(9y) \\ & 81x + 81y \end{aligned}$$

$$\begin{aligned} 3) \quad & \underline{2(x+1)} \\ & 2x + 2 \end{aligned}$$

$$\begin{aligned} 4) \quad & \underline{4(5v + 6v)} \\ & 4(5v) + 4(6v) \\ & 20v + 24v \\ & \boxed{44v} \end{aligned}$$

FACTORING

$$\begin{array}{l} 12 + 8 = 4(3 + 2) \quad 4(5) = 20 \\ 20 \quad \quad \quad 2(6 + 4) \quad 2(10) = 20 \end{array}$$

$$\begin{array}{l} 1) \quad 9 + 21 \quad 3 \overline{) 9 \quad 21} \\ \quad \quad 3(3 + 7) \quad 3(3 + 7) \end{array}$$

$$2) \quad 14 + 28$$

$$\begin{array}{r} 7 \overline{) 14 \quad 28} \\ 2 \overline{) 2 \quad 4} \\ \quad \quad 1 \quad 2 \end{array}$$

$$7(2 + 4) = 14(1 + 2)$$