

Worksheet 6.2: Distributive Law

1. Solve the following equations:

$$4(x - 2) = -2(4 - x)$$

Check:

$$2x + 1 = 2(3x + \frac{3}{2})$$

Check:

2. Use the Distributive Law to multiply each of the following polynomials:

(a) $3x(x + 4) =$

(b) $-2y(4 - y + y^2) =$

(c) $(y - 3)(2y - 4) =$

(d) $(5x + 2y)(4x + 3y) =$

(e) $(z - w + 1)(3z + 4w) =$

(f) $(t - 5)(t + 5) =$

(g) $(3x + 2)(3x - 2) =$

(h) $(x + 2)^2 =$

(i) $(2p^2 - 1)^2 =$

(j) $4x(x^2 + 1)(x^2 - 1) =$

(k) $(x^2 + 2x + 1)(2x^2 - x - 2) =$

3. You can use the Distributive Law to multiply multi-digit numbers, without a calculator. For example,

$$65 \cdot 13 = (60 + 5) \cdot (10 + 3) = 60 \cdot 10 + 60 \cdot 3 + 5 \cdot 10 + 5 \cdot 3 = 600 + 180 + 50 + 15 = 845$$

Use the Distributive Law to calculate each of the following:

(a) $72 \cdot 25 =$

(b) $99 \cdot 17 =$

(c) $46 \cdot 53 =$

(d) $132 \cdot 38 =$

(e) $231 \cdot 143 =$