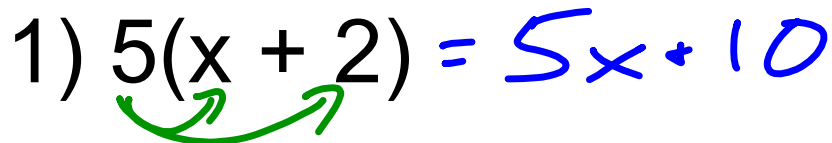
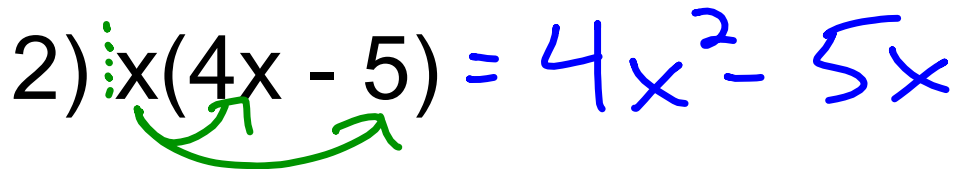


HW: 8.2/19-29 odd, 37, 39, 43a, 43b, 46

Warm up:

Simplify.

$$1) 5(x + 2) = 5x + 10$$
The equation $5(x + 2) = 5x + 10$ is written in blue. Two green curved arrows originate from the number 5 in the parentheses. One arrow points to the x term, and the other points to the constant term 2, illustrating the distributive property.

$$2) x(4x - 5) = 4x^2 - 5x$$
The equation $x(4x - 5) = 4x^2 - 5x$ is written in blue. Two green curved arrows originate from the x term outside the parentheses. One arrow points to the $4x$ term, and the other points to the constant term -5 , illustrating the distributive property.

$$3x(x^2 - 2x + 4)$$

$$3x^3 - 6x^2 + 12x$$

$$5a^2b^3(2a^2 - 4ab + b^2)$$

$$10a^4b^3 - 20a^3b^4 + 5a^2b^5$$

$$-x^2z(2z^2 + 4xz^3) + xz^2(xz + 5x^3z) + x^2z^3(3x^2z + 4xz)$$

$$\underline{-2x^2z^3} - \cancel{4x^3z^4} + \underline{x^2z^3} + 5x^4z^3 + 3x^4z^4 + \cancel{4x^3z^4}$$

$$\underline{-x^2z^3 + 5x^4z^3 + 3x^4z^4}$$

HW Solutions

(30)

$$\left[(-x^3)^2 \right]^3$$

$$\left[x^6 \right]^3$$

$$x^{18}$$

$$\begin{aligned} (-1)^2 \\ (-1)(-1) = 1 \end{aligned}$$

26

$$(2x^2y^3)^4 (-xy^2)^2$$

$$16x^8y^{12} \cdot x^2y^4$$

$$16x^{10}y^{16}$$

$$x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot y \cdot y \cdot y \cdot y \cdot y \cdot y \cdot y \cdot y$$

(42)

$$X^n \cdot X^2 = X^{n+2}$$

$$\begin{aligned} & \textcircled{32} \quad (5a^2b)^2 (5b)^3 \\ & \quad 25a^4b^2 \cdot 125b^3 \\ & \quad \textcircled{3125a^4b^5} \end{aligned}$$

(30)

$$\rho(-\rho^4)^4$$

$$\rho(\rho^4)^4$$

$$\rho^5 q^4$$

$$\rho^3(2\rho q^2)^2$$

$$\rho^3(4\rho^2 q^4)$$

$$4\rho^5 q^4$$

sum

$$\rho^5 q^4 + 4\rho^5 q^4 = 5\rho^5 q^4$$

product

$$\rho^5 q^4 \cdot 4\rho^5 q^4 = 4\rho^{10} q^8$$

$$2x^3 + 5x^3 = 7x^3$$

$$\textcircled{29} \left(\frac{1}{10} x^3 y\right)^3 (10y)^4$$
$$\frac{1}{1000} x^9 y^3 \cdot 10000 y^4$$
$$\textcircled{10 x^9 y^7}$$

18

$$(2x^2y)^5$$

$$32x^{10}y^5$$

22

$$(3c)^2 (3c)^3$$

$$9c^2 \cdot 27c^3$$

$$243c^5$$

20

$$(5^3 \cdot 3^4)^3$$

$$125^9 \cdot 12^9$$

46

$$(a^x)^y (a^y)^x$$

$$a^{xy} \cdot a^{xy} = a^{2xy}$$

46

$$(2x^n)^3 (x^n)^5$$

$$8x^{3n} \cdot x^{5n}$$

$$8x^{8n}$$

56

$$(t^m)^n \cdot 3(t^n)^m$$

$$t^{mn} \cdot 3t^{mn}$$

$$3t^{2mn}$$

8.2/4, 20, 22, 38

$$\textcircled{4} \quad -3p^4 r^3 (2p^2 r^4 - 6p^6 r^3 - 5)$$
$$-6p^6 r^7 + 18p^{10} r^6 + 15p^4 r^3$$

Q2

$$-3m^3(2m^3 - 12m^2 + 2m + 25)$$

$$-6m^6 + 36m^5 - 6m^4 - 75m^3$$

