

7.1 Products of Polynomials - Worksheet 1

1 Compute the product $4m^2n^3 \cdot 5m^3n$ using three different presentations as demonstrated in this section.

The reason for doing this all three ways is to practice thinking through the logic. In the end, the goal will be that you can do this mentally, but you need to also be able to think through the individual steps correctly.

2 Complete the products in the following boxes.

$$3x \begin{array}{|c|} \hline 8 \\ \hline \end{array}$$

$$4a^2b^2 \begin{array}{|c|} \hline -3ab \\ \hline \end{array}$$

$$-6p^3q^2 \begin{array}{|c|} \hline -2p^2q \\ \hline \end{array}$$

Doing these products mentally is all about practicing keeping yourself organized. Work through the products in a systematic way.

3 Complete the products in the following grids, then write up your results using a complete presentation.

$$\begin{array}{|c|c|} \hline x & 4 \\ \hline 5 & \end{array}$$

$$\begin{array}{|c|} \hline 6 \\ \hline -x \\ \hline 3 \\ \hline \end{array}$$

7.2 Products of Polynomials - Worksheet 2

1 Compute the product $-3x^4y^3 \cdot 8x^3y$ using three different presentations as demonstrated in this section.

2 Complete the products in the following boxes.

$$2a \begin{array}{|c|} \hline -4 \\ \hline \end{array}$$

$$-6mn \begin{array}{|c|} \hline 5m^2n \\ \hline \end{array}$$

$$-3x^4y^5 \begin{array}{|c|} \hline 7x \\ \hline \end{array}$$

Some students get confused by products like the last one. But the $7x$ term has no y in it! What do you think that means when it comes to taking the product?

3 Calculate $(x + 5)(x + 8)$ using a grid. Write up your result using a complete presentation, being sure to simplify by combining like terms.

7.3 Products of Polynomials - Worksheet 3

1 Complete the products in the following grids, then write up your results using a complete presentation.

	$3x$	$-5y$
$2y$		

	$4a$
$3a$	
-2	

2 Calculate $4(2x + 3)$ using a grid. Then write up your result as an equation.

Your final presentation for this will be

$$4(2x + 3) = (\text{Result}).$$

3 Calculate $(x + 3)(x - 2)$ using a grid. Write up your result using a complete presentation, being sure to simplify by combining like terms.

7.4 Products of Polynomials - Worksheet 4

1 Calculate $4a(-3a + 2)$ using a grid. Then write up your result as an equation.

2 Calculate $(2x + 4)(x - 3)$ using a grid. Write up your result using a complete presentation, being sure to simplify by combining like terms.

3 Calculate $(2a - 3b + 4)(a - 1)$ using a grid. Write up your result using a complete presentation, being sure to simplify by combining like terms.

7.5 Products of Polynomials - Worksheet 5

1 Calculate $(2x + 5)(3x - 1)$ using a grid. Write up your result using a complete presentation, being sure to simplify by combining like terms.

2 Calculate $(x^2 - 2x + 3)(x - 4)$ using a grid. Write up your result using a complete presentation, being sure to simplify by combining like terms.

We generally prefer that the terms of a polynomial are written so that the degree is decreasing. This helps everyone be consistent with each other.

3 Calculate $(x^2 + 4x - 1)(2x^2 - 3x - 2)$ using a grid. Write up your result using a complete presentation, being sure to simplify by combining like terms.