Review

Simplify.

a) $(2y + 3x^2) + (8y - 5x^2)$

1. $2y+3x^2+8y-5x^2$
2. $10y-2x^2$

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

1. $(2y-2x^2)+(-3y-4x^2)$
2. $2y-2x^2+-3y-4x^2$
3. $-y-6x^2$

Hand in the following two questions to be marked...

a) $(3x^2 + 7x - 4) + (9x^2 - 2)$

b) $(4x^3 + 2x^2 - 10) - (2x^3 - 17x^2 + 18)$

Learning Goals

1. To understand when you expand brackets you multiply coefficients together and add the exponents of common bases.

2. To understand that all terms inside the bracket must be multiplied by the term outside of the bracket.

3. To understand that if there is only a subtraction sign outside of the bracket, think of the term as negative one.

2.5 Multiplying a Polynomial by a Monomial

Distributive Property - Multiple the term outside of the brackets by everything in side of the brackets.

For example: $2x(3x^2 + 5) = 2x(3x^2) + 2x(5)$

$= 6x^3 + 10x$

Rules for Multiplying

1. Multiply the coefficients of the terms to get the coefficients of the product.

2. Add the exponents to determine the exponents of the variable terms.

Example One

Multiply.

a) $3y(6y + 2)$

1. $18y^2 + 6y$

OR

1. $6y(3y) + 2(3y)$

$= 18y^2 + 6y$

b) $-x^2(x^3 + 7x - 16x^2)$

1. $x^3(-x^2) + 7x(-x^2) - 16x^2(-x^2)$

$= -1x^5 - 7x^3 + 16x^4$

* Don't forget to include operation signs (+/-)

c) $3x^2(2x^3 + 4x - 5)$

1. $2x^3(3x^2) + 4x(3x^2) - 5(3x^2)$

2. $6x^5 + 12x^3 - 15x^2$

Example Two

( )$(2x^2 - 5) = 8x^3 - 20x$

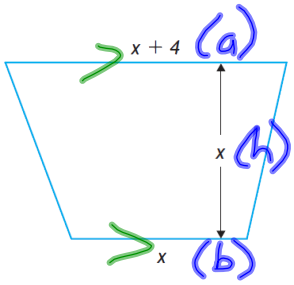
What does ( ) equal?

Hint: Look at the first term in your answer and ask how did I get this coefficient and variable?

$4x(2x^2 - 5) = 8x^3 - 20x$

Example Three

Determine the area of the trapezoid.



Hint: $A = 0.5h(a + b)$

$A = 0.5x(x + 4 + x)$

$= 0.5x(2x + 4)$

$= 2x(0.5x) + 4(0.5x)$

$= 1x^2 + 2x$

Hints for Question #9

a) Rectangle: $A = l \times w$

$P = 2(l + w)$

b) Parallelogram: $A = b \times h$

$P = s_1 + s_2 + s_3 + s_4$

c) Trapezoid: $A = 0.5h(a + b)$

$P = s_1 + s_2 + s_3 + s_4$

Complete: p. 116 - 118 #2, 6, 7, 9.