

Multiplying a polynomial by a monomial 1.30.17

Welcome.

Last week we discussed simplifying monomials when they were being multiplied. This week we will take it a step forward by multiplying a polynomial by a monomial.

$-2x^2(3x^2 - 7x + 10)$ The first thing we need to do is distribute the $-2x^2$ to create equation
 $-2x^2 \cdot 3x^2 + -2x^2 \cdot -7x + -2x^2 \cdot 10$ Then we must simplify using the methods from last week
 $-6x^4 + 14x^3 - 20x^2$.

$4(3x^2 + 5x) - x(x^2 - 7x + 12)$ First we should distribute before applying the subtraction sign
 $12x^2 + 20x - x^3 + 7x^2 - 12x$ Then we should combine like terms and put it in proper order
 $-x^3 + 19x^2 + 8x$

We can also solve using this method when there is an equals sign

$x(x - 12) + x(x + 2) + 25 = 2x(x + 5) - 15$ First we should distribute

$x^2 - 12x + x^2 + 2x + 25 = 2x^2 + 10x - 15$ Then we should combine like terms on both sides

$2x^2 - 10x + 25 = 2x^2 + 10x - 15$ Then try to get all the x on one side and the constant on the other

$-20x = -40$ Then divide by -20 and $x=2$

You try

$$x(5x + x^2)$$

$$x^3 + 5x^2$$

$$5x(4x^3 + 6x^2 - 2x + 3) - 4(x^2 + 7x)$$

$$20x^4 + 30x^3 - 14x^2 - 13x$$

$$2(4x - 7) = 5(-2x - 9) - 5$$

$$-2$$

HW PG 446 20-23, 29-32, 40-43