

10.2 Multiplying Polynomials

Multiplying a Monomial times a Polynomial

$$-3x^2(4x^3 - 2x^2 + x - 10)$$

Multiplying using a table

$$(2x - 1)(4x + 2)$$

Binomial times a Trinomial

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

Another Way: Multiplying Horizontally

$$(2x - 5)^2$$

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

Try these:

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

$$(7g^2 + 4g + 1)(g - 8)$$

SUMMARIZE YOUR NOTES:

PRACTICE PROBLEMS

DIRECTIONS: Find the product.		
1) $x(2x^2 - 3x + 9)$	2) $z^2(4z^4 + z^3 - 11z^2 - 6)$	3) $-a^5(-9a^2 + 5a + 13)$
4) $(x+2)(x-3)$	5) $(4b - 3)(b-7)$	6) $(3k - 1)((3k + 1)$

7) $(y - 6)^2$	8) $(7w + 5)(11w - 3)$	9) $(s + 4)(s^2 + 6s - 5)$
10) $(5x + 2)(-3x^2 + 4x - 1)$		11) $(6z^2 + z - 1)(9z - 5)$
12) $p(2p-3) + (p-3)(p+3)$	13) $-3b^2(b + 11) - (4b - 5)(3b - 2)$	

Quick Review. Simplify each.			
1) $\frac{x^9}{x^3}$	2) $g^5(g^8)$	3) x^{-5}	4) $\frac{n}{n^4}$

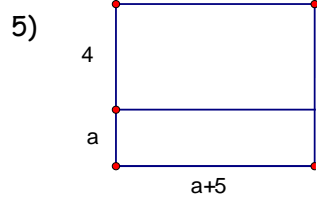
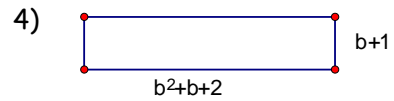
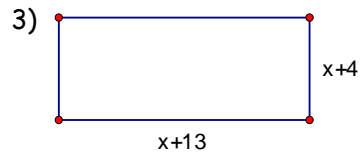
10-2 Application

Directions: Simplify each expression.

1) $2a^4(3a^2 - 5a + 1)$

2) $(5b - 3)(2b^2 + 3b - 5)$

Directions: Write a polynomial that represents the area of each shape.



6) You want to give your friend a framed picture. You know the dimensions of the picture are 4 inches by 6 inches. You know that you want the frame to be the same width all the way around the picture but aren't sure what its exact size is.

a) Draw a picture of the above situation.

b) Write a polynomial that represents the total area of the picture and the frame.

Coming Up...		
Simplify 1. $\sqrt{7^2 - 4(2)(3)}$	Simplify 2. $-7 + \sqrt{7^2 - 4(2)(3)}$	Simplify 3. $\frac{-7 + \sqrt{7^2 - 4(2)(3)}}{2(2)}$