Algebra I

4-5

Multiplying Polynomials by Monomials

Contrast

When Multiplying:

1) Like terms needed? No
2) Coefficients: Multiply
3) Exponents: Add
4) Bases: Never Change

Example

$(4x^2y)(7xy^2) = 28x^3y^3$

When Adding:

1) Like terms needed? Yes
2) Coefficients: Add
3) Exponents: Stay the Same
4) Bases: Never Change

Example

#1) $(4x^2y) + (7xy^2)$ = Can't do

#2) $4x^2y + 7x^2y = 11x^2y$

When is the only time we add powers? Multiplication

When is the only time we multiply powers? Outside parentheses

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Multiply. (pg 159)

5) $3y(y + 5)$

$3y^2 + 15y$

9) $\frac{3y^2 - y - 5}{2y}$ Junk!

Rewrite

$2y(3y^2 - y - 5)$

$6y^3 - 2y^2 - 10y$

17) $\frac{1}{3}x^2(6x^2 - 9xy - 3y^2)$

$2x^4 - 3x^3y - 1x^2y^2$

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21) $6r^2(2r - 1) - 3(4r^2 - 5r)$

$12r^3 - 6r^2 - 12r^2 + 15r$

$12r^3 - 18r^2 + 15r$

Solve.

29) $15 = 3(x - 1) + 2(4 - x)$

$15 = 3x - 3 + 8 - 2x$

$15 = x + 5$

$15 - 5 = x + 5 - 5$

$10 = x$

$\{10\}$

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