

Algebra II

4-3

Multiplying Polynomials

Oct 31-8:57 AM

F **O** **I** **L**
first outside inside last

Multiply. (pg 175)

1)

$$(3v + 1)(2v - 5)$$
$$6v^2 - 15v + 2v - 5$$
$$6v^2 - 13v - 5$$

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17) $(x^2 - 3)(x^2 + 3)$ ← conjugate pairs
 (middle terms cancel out)

$$x^4 + \underline{3x^2} - \underline{3x^2} - 9$$

$$x^4 - 9$$

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19) $(s^3 + t^3)^2$

$$(s^3 + t^3)(s^3 + t^3)$$

$$s^6 + s^3t^3 + s^3t^3 + t^6$$

$$\boxed{s^6 + 2s^3t^3 + t^6}$$

31) $(x^2 - 2x + 2)(x^2 + x - 1)$

$$x^4 + \underline{x^3} - \underline{x^2} - \underline{2x^3} - \underline{2x^2} + \underline{2x} + \underline{2x^2} + \underline{2x} - 2$$

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

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$$45) (x+y)(x-y)(x^2+y^2)$$

$$(x^2 - \cancel{xy} + \cancel{xy} - y^2)(x^2 + y^2)$$

$$(x^2 - y^2)(x^2 + y^2)$$

$$x^4 + \cancel{x^2y^2} - \cancel{x^2y^2} - y^4$$

$$x^4 - y^4$$

Oct 23-1:54 PM

Pg 175

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even

Oct 31-9:03 AM