4.5 Binomial Squares and Special Products

Need To Know

- More binomials times binomials
- Squares of binomials
- Product of a sum and difference binomial

Binomial times Binomial

Multiply by distributive law:

$(y + 5)(y - 4)$

Short Cut: **FOIL**

Multiply:

F – first terms

O – outer terms

I – inner terms

L – last terms

Binomial times Binomial

Multiply

$(x^2 - 3)(x - 1)$

$(1 + 2t^2)(1 + 3t^3)$

Short Cut: **FOIL**

Multiply:

F – first terms

O – outer terms

I – inner terms

L – last terms

Squares of Binomials

Simplify:

$(x + 3)^2$

$(A + B)^2$

Short Cut: **FOIL**

F – first terms mult.

O – outer terms mult.

I – inner terms mult.

L – last terms mult.

Squares of Binomials

Simplify:

$(4x - 5)^2$

Short Cut: **FOIL**

F – first terms mult.

O – outer terms mult.

I – inner terms mult.

L – last terms mult.

$(A - B)^2$

Squares of Binomials

Simplify:

$(x + 6y)^2$

Formulas to Know

$(A + B)^2 = A^2 + 2AB + B^2$

$(A - B)^2 = A^2 - 2AB + B^2$

$(4n - 6)^2$

Product of a Sum and Difference

Simplify:

$(a + 3)(a – 3)$

Short Cut: **FOIL**

F – first terms mult.

O – outer terms mult.

I – inner terms mult.

L – last terms mult.

$(A + B)(A – B)$

Product of a Sum and Difference

$(2x – 5)(2x + 5)$

Formulas to Know

$(A + B)^2 = A^2 + 2AB + B^2$

$(A – B)^2 = A^2 – 2AB + B^2$

$(A + B)(A – B) = A^2 – B^2$

$(3n + 6m)(3n – 6m)$

Practice

Formulas to Know

$(A + B)^2 = A^2 + 2AB + B^2$

$(A - B)^2 = A^2 - 2AB + B^2$

$(A + B)(A - B) = A^2 - B^2$

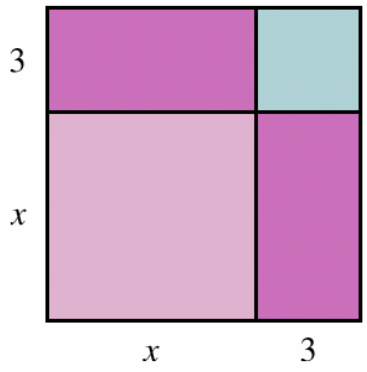
$(4a + 7b)^2$

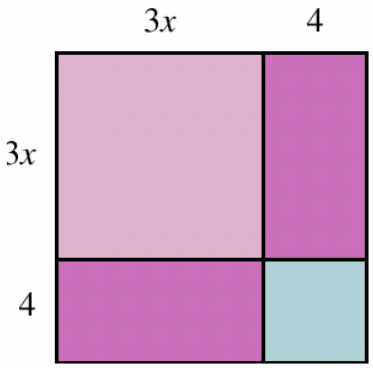
$(a - \frac{1}{2})^2$

$(6x + \frac{1}{4})(6x - \frac{1}{4})$

Polynomial Problem Solving

Find the total area of the shaded rectangles





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