

DO NOW

Write the following as a binomial

1) $(7p + 5q)(7p - 5q)$

2) $(3m^2 - 8n^2)(3m^2 + 8n^2)$

Factor the following

3) $25m^2 - 16$

4) $81x^4 - 16y^4$

5.6

Squares of Binomials

Hmmm.....

1) $(x + 5)^2$

2) $(a - 9)^2$

3) $(2a + 3)^2$

4) $(4s - 5t)^2$

Formula (Pattern)

$$(a + b)^2 = a^2 + 2ab + b^2$$

$$(a - b)^2 = a^2 - 2ab + b^2$$

Factoring Perfect Squares

$$a^2 + 2ab + b^2 = (a + b)^2$$

$$a^2 - 2ab + b^2 = (a - b)^2$$

- 1) Is the first term a square?
- 2) Is the last term a square?
- 3) Is the middle term (ignore sign) twice the product of the roots of the first and last terms

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

Factoring Perfect Squares

$$a^2 + 2ab + b^2 = (a + b)^2$$

$$a^2 - 2ab + b^2 = (a - b)^2$$

- 1) Is the first term a square?
- 2) Is the last term a square?
- 3) Is the middle term (ignore sign) twice the product of the roots of the first and last terms

6) $p^2 - 14p + 49$

Factoring Perfect Squares

$$a^2 + 2ab + b^2 = (a + b)^2$$

$$a^2 - 2ab + b^2 = (a - b)^2$$

- 1) Is the first term a square?
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7) $4x^2 - 20x + 25$

Factoring Perfect Squares

$$a^2 + 2ab + b^2 = (a + b)^2$$

$$a^2 - 2ab + b^2 = (a - b)^2$$

- 1) Is the first term a square?
- 2) Is the last term a square?
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8) $16c^2 - 24c + 9$

EXTENSION...

Factorize the following
(Clue factor out the GCF and then factorize it)

9) $3a^2 - 18a + 27$

10) $63n^3 - 84n^2 + 28n$