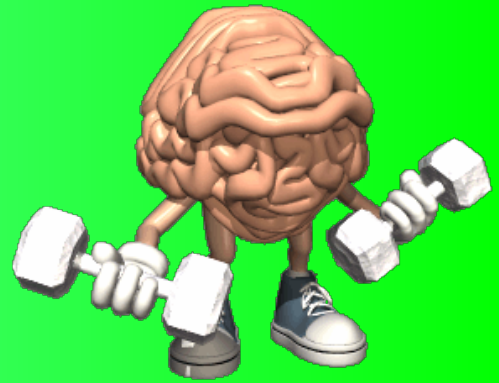


Warm Up



Factor the following
Using the Appropriate method:

1)

$$32m^4n^3 + 16m^2n^2 + 24m^2$$

$$8m^2(4m^2n^3 + 2n^2 + 3)$$

2) $k^2 - 2k - 15$

$$(k+3)(k-5)$$



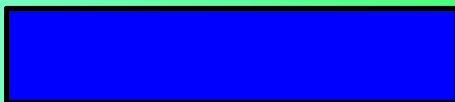
3)

$$2t^2 - 7t + 6$$

$$(2t-3)(t-2)$$

5)

$$x^2 - 5x - 24$$

4) $40b^2a^2 + 40b^2 + 16b$

$$8b(5a^2b + 5b + 2)$$

6) $7x^2 + 17x + 10$ 

3.6 Polynomials of the Form $ax^2 + bx + c$



Worksheet: GCF, Simple Trinomials & Hard Trinomials
Questions: 1-12

Math 10

Name _____

GCF, Simple Trinomials, Hard Trinomials

Date _____

Choose a factoring Method and factor each completely:

1) $-9n^5 + 6n^3$

2) $36r^6 + 54r - 45$

3) $-40 + 4b^2 - 32b^4$

4) $4xy^2 + 20x^2y + 16xy$

5) $x^2 + 13x + 42$

6) $x^2 + 13x + 36$

7) $k^2 + k - 12$

8) $a^2 + 4a - 45$

9) $2p^2 + 11p - 63$

10) $3n^2 + 11n - 20$

11) $4n^2 - 4n - 15$

12) $6n^2 - 29n + 20$

$$\begin{aligned} 1) \quad & -9n^5 + 6n^3 \\ & \quad 3n^3(-3n^2 + 2) \\ & -3n^3(3n^2 - 2) \end{aligned}$$

$$\begin{aligned} 2) \quad & 36r^6 + 54r - 45 \\ & \quad 9(4r^6 + 6r - 5) \end{aligned}$$

$$\begin{aligned} 3) \quad & -40 + 4b^2 - 32b^4 \\ & \quad 4(-10 + b^2 - 8b^4) \end{aligned}$$

$$\begin{aligned} 4) \quad & 4xy^2 + 20x^2y + 16xy \\ & \quad 4xy(y + 5x + 4) \end{aligned}$$

$$5) x^2 + 13x + 42$$
$$(x + 6)(x + 7)$$

$$6) x^2 + 13x + 36$$
$$(x + 9)(x + 4)$$

$$7) k^2 + k - 12$$
$$(k + 4)(k - 3)$$

$$8) a^2 + 4a - 45$$
$$(a - 5)(a + 9)$$

$$9) 2p^2 + 11p - 63$$
$$(2p - 7)(p + 9)$$

$$10) 3n^2 + 11n - 20$$
$$(3n - 4)(n + 5)$$

$$11) 4n^2 - 4n - 15$$
$$(2n + 3)(2n - 5)$$

$$12) 6n^2 - 29n + 20$$
$$(n - 4)(6n - 5)$$

3.8 Factoring Special Polynomials

Difference of Squares

- two terms that are perfect squares.
- must be a difference (—)
- factor like this...

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

EXAMPLES...

1) $4x^2 - 49$

$$(2x+7) (2x-7)$$

2) $16x^2 - 9y^2$

$$(4x+3y) (4x-3y)$$

3) $81z^4 - 625$

$$(9z^2+25) (9z^2-25)$$

4) $49w^2 - 4s^2$

$$(7w+2s) (7w-2s)$$

Perfect Square Trinomials

- three terms: the first and last are perfect squares.
- factors like this...

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

OR

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

- recognize them and you save yourself the decomposition steps!!! 2

$(5x-1)^2$

EXAMPLES...

1) $25x^2 - 10x + 1$

$(5x-1)^2$

2) $9x^2 + 24x + 16$

$(3x+4)^2$

Factor using Perfect Squares Method

$$25x^2 - 120x + 144$$

$$(5x-12)^2$$

$$81x^2 - 180x + 100$$

$$(9x-10)^2$$

$$49x^2 + 84x + 36$$

$$(7x+6)^2$$

$$36x^2 + 132x + 121$$

$$(6x+11)^2$$

