Today we started with reviewing Factoring concepts. We then learned about a factoring method called difference of squares. We then completed practice over both topics and the homework was to complete any practice problems that were not completed. We will review them today.

Factoring Quadratic Expressions Review

Date_____ Period____

Factor each completely.

1) $x^2 + 12x + 20$

20, 10, 2, 12

$(x+10)(x+2)$

2) $x^2 + 13x + 30$

$(x+10)(x+3)$

3) $4n^2 + 8n - 60$

$4(n^2+2n-15)$

-15, -3, 2

$4(n+5)(n-3)$

4) $4m^2 + 12m - 72$

$4(m^2+3m-18)$

$4(m+6)(m-3)$

5) $5a^2 - a - 6$

$(5a-6)(a+1)$

6) $2n^2 + n - 6$

$(2n-3)(n+2)$

7) $2b^2 + 11b + 5$

$(2b+1)(b+5)$

8) $3r^2 - 14r + 15$

$(3r-5)(r-9)$

9) $24x^2 + 124x + 112$

$4(6x^2+31x+28)$

$4(6x+7)(x+4)$

10) $4k^2 - k - 5$

$(4k-5)(k+1)$

11) $18x^2 - 21x + 6$

$3(6x^2-7x+2)$

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

12) $12v^2 + 58v + 56$

$2(6v^2+29v+28)$

$2(3v+4)(2v+7)$

13) $6m^2 - 5m - 21$

$(3m-7)(2m+3)$

14) $8x^2 - 62x + 84$

$2(4x^2-31x+42)$

$2(4x-7)(x-6)$

Factoring Difference of Squares

1. Degree must be even x^2, x^4, x^6
2. Binomial of subtracted terms
3. Both terms must be perfect squares.

$1^2=1$
$2^2=4$
$3^2=9$
$4^2=16$
$5^2=25$
$6^2=36$
$7^2=49$
$8^2=64$
$9^2=81$
$10^2=100$
$11^2=121$
$12^2=144$
$13^2=169$
$14^2=196$
$15^2=225$

$ax^2 = c$

After checking for GCF

Steps for Factoring Success
1. Take square root of first term. put in both $(\sqrt{a})(\sqrt{a})$
2. Take square root of second term. put in both $(\sqrt{a}\ \sqrt{c})(\sqrt{a}\ \sqrt{c})$
3. make one + and make one −

$(\sqrt{a}+\sqrt{c})(\sqrt{a}-\sqrt{c})$

1. $x^2 - 16$

$(x+4)(x-4)$

2. $x^2 - 49$

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

3. $4x^2 - 25$

$(2x+5)(2x-5)$

4. $36x^2 - 1$

$(6x+1)(6x-1)$

5. $75x^2 - 3$

$3(25x^2-1)$

$3(5x+1)(5x-1)$

6. $125x^2 - 45$

$5(25x^2-9)$

$5(5x+3)(5x-3)$

7. $100x^2 - 16$

$4(25x^2-4)$

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

8. $36x^2 - 400$

$4(9x^2-100)$

$4(3x+10)(3x-10)$

Algebra 2

Name_____ ID: 1

Factoring HW: Quadratics Review & Difference of Squares

Date_____

Factor each completely.

1) $v^2 - 7v + 6$

2) $p^2 + 5p + 6$

3) $2r^2 - 11r + 5$

4) $5m^2 - 8m + 3$

5) $3b^2 - 10b + 7$

6) $2x^2 + 3x + 1$

7) $4x^2 - 11x - 20$

8) $24x^2 + 28x - 80$

9) $4n^2 - 11n + 7$

10) $6v^2 - 23v + 20$

11) $x^2 - 16$

12) $4n^2 - 25$

13) $x^2 - 1$

14) $2x^2 - 18$

15) $100k^2 - 16$

16) $9x^2 - 1$

17) $4b^2 - 100$

18) $32k^2 - 50$

19) $k^2 - 9$

20) $18n^2 - 2$