

Thursday

Factoring Review

Name: Kelly Hr: _____

Factor Completely.

Factor the difference of squares

1. $m^2 - 36$

$(m-6)(m+6)$

2. $25b^2 - 4$

$(5b-2)(5b+2)$

Factor out the greatest common factor

3. $18x^2 - 36xy$

$18x(x-2y)$

4. $48r^2 - 4r$

$4r(12r-1)$

Factor by grouping

5. $(3x^3 - x^2) - (2x + 4)$

$x^2(3x-1) - 4(3x-1)$
 $(3x-1)(x^2-4) = (3x-1)(x+2)(x-2)$

6. $(6x^2 + 2x) + (6xy + 2y)$

$2x(3x+1) + 2y(3x+1)$
 $(3x+1)(2x+2y)$
 $2(x+y)(3x+1)$

Factor the trinomials

7. $6x^2 + x - 15$

$(2x-3)(3x+5)$
(other side)

8. $x^2 - 9x - 36$

$(x-12)(x+3)$
(change f. to -)

Factor completely

9. $a^2 - 121$

$(a+11)(a-11)$

10. $x^2 - 5x - 6$

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

11. $(6x^3 - 10x^2) + (3x - 5)$

$2x^2(3x-5) + 1(3x-5)$
 $(3x-5)(2x^2+1)$

12. $2x^2 - 18$

$2(x^2-9)$

$2(x+3)(x-3)$

13. $7x^2 - 112x$

$7x(x-16)$

14. $2x^2 - 5x - 12$

$2x^2 - 8x + 3x - 12$
 $2x(x-4) + 3(x-4)$
 $(x-4)(2x+3)$

15. $(4x^3 + 12x^2) - x - 3$

$4x^2(x+3) - 1(x+3)$
 $(x+3)(4x^2-1)$

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

16. $x^3 + 5x^2 + 6x$

$x(x^2 + 5x + 6)$
 $x(x+2)(x+3)$

Solve the quadratic equations below

17. $4x^2 - 9$

$(2x+3)(2x-3)$

18. $18x^2 + 9x + 1$

$(18x^2 + 6x) + (3x + 1)$
 $6x(3x+1) + 1(3x+1)$
 $(3x+1)(6x+1)$

19. $3x^2 - 12x$

$3x(x-4)$

20. $x^2 - 12x + 36$

$(x-6)^2$