

Wednesday

Name: Key Hr: _____

Factoring Trinomials Worksheet

Factor the trinomial whose leading coefficient is "1"

1. $t^2 + 8t + 12$

$(t + 2)(t + 6)$

2. $m^2 - 7m + 12$

$(m - 3)(m - 4)$

3. $n^2 - 3n - 18$

$(n + 3)(n - 6)$

Factor the trinomial whose leading coefficient is NOT "1"

4. $3h^2 + 2h - 16$

$3h^2 - 6h + 8h - 16$
 $3h(h - 2) + 8(h - 2)$
 $(h - 2)(3h + 8)$

5. $6c^2 + 7c + 2$

$6c^2 + 3c + 4c + 2$
 $3c(2c + 1) + 2(2c + 1)$
 $(2c + 1)(3c + 2)$

6. $5p^2 - 22p + 8$

$5p^2 - 20p - 2p + 8$
 $5p(p - 4) - 2(p - 4)$
 $(p - 4)(5p - 2)$

Factor the perfect square trinomial

7. $r^2 + 4r + 4$

$(r + 2)^2$

8. $49z^2 - 56z + 16$

$(7z - 4)^2$

9. $e^2 - 2cde + c^2d^2$

$(e - cd)^2$

Factor Completely

10. $n^2 + 3n - 18$

$(n + 6)(n - 3)$

11. $v^2 - 18v + 80$

$(v - 8)(v - 10)$

12. $18z^2 + 9z + 1$

$6z^2 + 6z + 3z + 1$
 $6z(3z + 1) + 1(3z + 1)$
 $(3z + 1)(6z + 1)$

13. $6x^2 + x - 15$

$6x^2 - 9x + 10x - 15$
 $3x(2x - 3) + 5(2x - 3)$
 $(2x - 3)(3x + 5)$

14. $m^2 - 12m + 36$

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

15. $25v^2 + 30v + 9$

$(5v + 3)^2$

16. $6c^2 - 10c - 4$

$6c^2 - 12c + 2c - 4$
 $6c(c - 2) + 2(c - 2)$
 $(c - 2)(6c + 2)$

17. $x^2 + 7x - 44$

$(x + 11)(x - 4)$

18. $w^2 + 24w + 144$

$(w + 12)(w + 12)$
 $= (w + 12)^2$

19. $p^2 - p - 56$

$(p - 8)(p + 7)$

20. $8m^2 - 10m + 3$

$8m^2 - 6m - 4m + 3$
 $2m(4m - 3) - 1(4m - 3)$
 $(4m - 3)(2m - 1)$

21. $u^2 - 16u - 36$

$(u + 2)(u - 18)$

22. $15y^2 - y - 2$

$15y^2 - 5y + 5y - 2$
 $3y(5y - 2) + 1(5y - 2)$
 $(5y - 2)(3y + 1)$

23. $16m^2 - 24mn + 9n^2$

$(4m - 3n)^2$

24. $6z^2 - 5z - 4$

$6z^2 - 8z + 3z - 4$
 $2z(3z - 4) + 1(3z - 4)$
 $(3z - 4)(2z + 1)$