Key

Kuta Software - Infinite Algebra 1 Name_____

# Factoring Trinomials (a > 1)

Date_____ Period____

**Factor each completely.**

1) $3p^2 - 2p - 5$

+3 -5
□+□ = -2
□×□ = -15

1,15
3,5

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

2) $2n^2 + 3n - 9$

+6 -3
□+□ = 3
□×□ = -18

1,18
2,9
3,6

$2n^2+6n-3n-9$
$(2n^2+6n)+(-3n-9)$
$2n(n+3)-3(n+3)$
$(n+3)(2n-3)$

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

-2 -6
□+□ = -8
□×□ = 12

1,12
2,6
3,4

$3n^2-2n-6n+4$
$(3n^2-2n)+(-6n+4)$
$n(3n-2)-2(3n-2)$
$(3n-2)(n-2)$

4) $5n^2 + 19n + 12$

+4 +15
□+□ = 19
□×□ = 60

1,60
2,30
3,20
4,15
5,12
6,10

$5n^2+4n+15n+12$
$(5n^2+4n)+(15n+12)$
$n(5n+4)+3(5n+4)$
$(5n+4)(n+3)$

5) $2v^2 + 11v + 5$

+1 +10
□+□ = 11
□×□ = 10

1,10
2,5

$2v^2+1v+10v+5$
$(2v^2+1v)+(10v+5)$
$v(2v+1)+5(2v+1)$
$(2v+1)(v+5)$

6) $2n^2 + 5n + 2$

+1 +4
□+□ = 5
□×□ = 4

1,4
2,2

$2n^2+1n+4n+2$
$(2n^2+1n)+(4n+2)$
$n(2n+1)+2(2n+1)$
$(2n+1)(n+2)$

7) $7a^2 + 53a + 28$

+4 +49
□+□ = 53
□×□ = 196

1,196
2,98
4,49

$7a^2+4a+49a+28$
$(7a^2+4a)+(49a+28)$
$a(7a+4)+7(7a+4)$
$(7a+4)(a+7)$

8) $9k^2 + 66k + 21$

$3(3k^2+22k+7)$

+1 +21
□+□ = 22
□×□ = 21

1,21
3,7

$3(3k^2+1k+21k+7)$
$3[(3k^2+1k)+(21k+7)]$
$3[k(3k+1)+7(3k+1)]$
$3(3k+1)(k+7)$

KEY

9) $15n^2 - 27n - 6$

$3(5n + 1)(n - 2)$

10) $5x^2 - 18x + 9$

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

11) $4n^2 - 15n - 25$

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

12) $4x^2 - 35x + 49$

$(x - 7)(4x - 7)$

13) $4n^2 - 17n + 4$

$(n - 4)(4n - 1)$

14) $6x^2 + 7x - 49$

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

15) $6x^2 + 37x + 6$

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

16) $-6a^2 - 25a - 25$

$-(2a + 5)(3a + 5)$

17) $6n^2 + 5n - 6$

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

18) $16b^2 + 60b - 100$

$4(b + 5)(4b - 5)$