Algebra 2

Name Key

# Special Cases 2019

Date _____ Hour ____

**Factor each completely.**

1) $32x^2 - 50$

$2(16x^2-25)$

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

2) $100k^2 - 36$

$4(25k^2-9)$

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

3) $16a^2 - 25$

$(4a+5)(4a-5)$

4) $2p^2 - 50$

$2(p^2-25)$

$2(p+5)(p-5)$

5) $75x^2 - 3$

$3(25x^2-1)$

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

6) $9b^2 - 4$

$(3b+2)(3b-2)$

7) $4x^2 - 9$

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

8) $9x^2 - 16$

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

9) $8a^2 - 50$

$2(4a^2-25)$

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

10) $25x^2 - 9$

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

11) $16x^2 - 1$

$(4x+1)(4x-1)$

12) $n^2 - 25$

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

13) $m^2 - 9$

$(m+3)(m-3)$

14) $25x^2 - 16$

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

100

15) $50n^2 - 40n + 8$

$2(25n^2 - 20n + 4)$

$25n^2 - 10n - 10n + 4$

$5n(5n-2) - 2(5n-2)$

$\boxed{2(5n-2)(5n-2)}$

16

17) $16n^2 + 8n + 1$

$16n^2 + 4n + 4n + 1$

$4n(4n+1)((4n+1)$

$\boxed{(4n+1)(4n+1)}$

144

16) $16b^2 - 24b + 9$

$16b^2 - 12b - 12b + 9$

$4b(4b-3) - 3(4b-3)$

$\boxed{(4b-3)(4b-3)}$

-27

18) $m^2 + 6m - 27$

$\boxed{(m+9)(m-3)}$

19) $x^2 - 2x - 35$

$\boxed{(x-7)(x+5)}$

20) $r^2 + 3r$

$\boxed{r(r+3)}$

21) $28x^3 + 20x^2 - 7x - 5$

$4x^2(7x+5) - 1(7x+5)$

$(4x^2-1)(7x+5)$

$\boxed{(7x+5)(2x+1)(2x-1)}$

22) $48x^3 - 30x^2 + 40x - 25$

$6x^2(8x-5)\ 5(8x-5)$

$\boxed{(6x^2+5)(8x-5)}$

15

23) $3n^2 + 8n + 5$

$3n^2 + 5n + 3n + 5$

$3n(3n+5)\ 1(3n+5)$

$\boxed{(n+1)(3n+5)}$

225

24) $5x^2 - 34x + 45$

$5x^2 - 25x - 9x + 45$

$5x(x-5) - 9(x-5)$

$\boxed{(5x-9)(x-5)}$

-30

25) $5m^2 - m - 6$

$5m^2 - 6m + 5m - 6$

$m(5m-6)\ 1(5m-6)$

$\boxed{(5m-6)(m+1)}$

36

26) $4x^2 + 12x + 9$

$4x^2 + 6x + 6x + 9$

$2x(2x+3)\ 3(2x+3)$

$\boxed{(2x+3)(2x+3)}$

-60

27) $4b^2 - 17b - 15$

$4b^2 - 20b + 3b - 15$

$4b(b-5)\ 3(b-5)$

$\boxed{(4b+3)(b-5)}$

-12

28) $4n^2 + 4n - 3$

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

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

$\boxed{(2n+3)(2n-1)}$

-90
+W30

29) $6p^2 + p - 15$

$6p^2 + 10p - 9p - 15$

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

$\boxed{(2p-3)(3p+5)}$

30) $p^3 + 3p^2 - 6p - 18$

$p^2(p+3) - 6(p+3)$

$\boxed{(p^2-6)(p+3)}$