

Quiz 2 Review: Factoring

Date _____

Period _____

Factor completely.

1) $12x^4 - 15x^3$

$3x^3(4x-5)$

2) $6x^7 + 24x^4$

$6x^4(x^3+4)$

Factor each completely.

3) $n^2 - 3n - 18$

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

4) $x^2 - 5x - 14$

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

5) $a^2 - 6a$

$a(a-6)$

6) $x^2 - 8x - 9$

$(x-9)(x+1)$

7) $5r^2 + 50r + 45$

$5(r^2 + 10r + 9)$

$5(r+9)(r+1)$

8) $2b^2 - 7b + 3$

$2b^2 - (6b - 1b) + 3$

$(2b^2 - 6b) - 1(b - 3)$

$2b(b-3) - 1(b-3) \rightarrow (2b-1)(b-3)$

$$\begin{array}{r|l} x & + \\ 6 & -7 \\ \hline -6 & -1 \end{array}$$

9) $5n^2 + 41n - 36$

$5n^2 - 4n + 45n - 36$

$(5n^2 - 4n) + (45n - 36)$

$n(5n-4) + 9(5n-4) \rightarrow (5n-4)(n+9)$

$$\begin{array}{r|l} -180 & 41 \\ +45 & -4 \end{array}$$

10) $6k^2 - 29k + 30$

$6k^2 - 9k - 20k + 30$

$3k(2k-3) - 10(2k-3)$

$(3k-10)(2k-3)$

$$\begin{array}{r|l} 180 & \\ -9 & -20 \end{array}$$

11) $x^2 - 1$

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

12) $x^2 - 16$

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

13) $9x^2 - 16$

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

14) $25r^2 - 9$

$(5r+3)(5r-3)$

15) $4x^2 + 20x + 25$

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

or

$(2x+5)^2$

16) $9x^2 + 6x + 1$

$(3x+1)(3x+1)$

or

$(3x+1)^2$