Kuta Software - Infinite Algebra 2

Name_____

Factoring Quadratic Expressions

Date_____ Period____

Factor each completely.

1) $x^2 - 7x - 18$

$(x-9)(x+2)$

2) $p^2 - 5p - 14$

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

3) $m^2 - 9m + 8$

$(m-8)(m-1)$

4) $x^2 - 16x + 63$

$(x-9)(x-7)$

5) $7x^2 - 31x - 20$

$(7x+4)(x-5)$

6) $7k^2 + 9k$

$k(7k+9)$

7) $7x^2 - 45x - 28$

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

8) $2b^2 + 17b + 21$

$(2b+3)(b+7)$

9) $5p^2 - p - 18$

$(5p+9)(p-2)$

10) $28n^4 + 16n^3 - 80n^2$

$4n^2(7n^2+4n-20)$

$4n^2(7n-10)(n+2)$

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11) $3b^3 - 5b^2 + 2b$

$b(3b^2 - 5b + 2)$

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

12) $7x^2 - 32x - 60$

$(7x + 10)(x - 6)$

13) $30n^2b - 87nb + 30b$

$3b(10n^2 - 29n + 10)$

$3b(5n - 2)(2n - 5)$

14) $9r^2 - 5r - 10$

PRIME

15) $9p^2r + 73pr + 70r$

$r(9p^2 + 73p + 70)$

$r(9p + 10)(p + 7)$

16) $9x^2 + 7x - 56$

PRIME

17) $4x^3 + 43x^2 + 30x$

$x(4x^2 + 43x + 30)$

$x(4x + 3)(x + 10)$

18) $10m^2 + 89m - 9$

$(10m - 1)(m + 9)$

Critical thinking questions:

19) For what values of b is the expression factorable?
$x^2 + bx + 12$

$b = \pm 13, \pm 8, \pm 7$

20) Name four values of b which make the expression factorable:
$x^2 - 3x + b$

Many!

Ex: $0, 2, -4, -10, -18$

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