

## Section P.4: Facotoring Day 1

Date \_\_\_\_\_ Period \_\_\_\_\_

**Factor each completely.**

1)  $r^2 + 8r - 9$

2)  $n^3 - 10n^2 + 21n$

3)  $n^3 - 13n^2 + 36n$

4)  $x^2 - 18x + 81$

5)  $m^2 + 14m + 48$

6)  $x^2 + 5x - 50$

7)  $x^2y - 9xy^2 + 8y^3$

8)  $x^2 - 4xy - 5y^2$

9)  $3x^2 - 27xy + 60y^2$

10)  $x^2 + 8xy - 9y^2$

$$11) 4x^2 + 12xy - 40y^2$$

$$12) x^2 + 8xy + 15y^2$$

$$13) 45n^2 + 215n + 140$$

$$14) 10n^2 + 31n + 24$$

$$15) 9a^2 + 90a$$

$$16) 30a^2 - 39a - 42$$

$$17) 9r^4 - 28r^3 - 32r^2$$

$$18) 9n^2 - 44n - 5$$

$$19) 10x^3 + 20x^2$$

$$20) 10x^2 + 3x - 18$$

## Section P.4: Facotoring Day 1

**Factor each completely.**

1)  $r^2 + 8r - 9$

$(r - 1)(r + 9)$

2)  $n^3 - 10n^2 + 21n$

$n(n - 7)(n - 3)$

3)  $n^3 - 13n^2 + 36n$

$n(n - 9)(n - 4)$

4)  $x^2 - 18x + 81$

$(x - 9)^2$

5)  $m^2 + 14m + 48$

$(m + 8)(m + 6)$

6)  $x^2 + 5x - 50$

$(x + 10)(x - 5)$

7)  $x^2y - 9xy^2 + 8y^3$

$y(x - y)(x - 8y)$

8)  $x^2 - 4xy - 5y^2$

$(x - 5y)(x + y)$

9)  $3x^2 - 27xy + 60y^2$

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

10)  $x^2 + 8xy - 9y^2$

$(x + 9y)(x - y)$

$$11) 4x^2 + 12xy - 40y^2$$
$$4(x - 2y)(x + 5y)$$

$$12) x^2 + 8xy + 15y^2$$
$$(x + 3y)(x + 5y)$$

$$13) 45n^2 + 215n + 140$$
$$5(n + 4)(9n + 7)$$

$$14) 10n^2 + 31n + 24$$
$$(2n + 3)(5n + 8)$$

$$15) 9a^2 + 90a$$
$$9a(a + 10)$$

$$16) 30a^2 - 39a - 42$$
$$3(a - 2)(10a + 7)$$

$$17) 9r^4 - 28r^3 - 32r^2$$
$$r^2(r - 4)(9r + 8)$$

$$18) 9n^2 - 44n - 5$$
$$(n - 5)(9n + 1)$$

$$19) 10x^3 + 20x^2$$
$$10x^2(x + 2)$$

$$20) 10x^2 + 3x - 18$$
$$(2x + 3)(5x - 6)$$