

## HW Factoring

**Factor each completely.**

1)  $v^2 + v - 20$

$(v - 4)(v + 5)$

2)  $n^2 + n - 72$

$(n + 9)(n - 8)$

3)  $k^2 + 11k + 24$

$(k + 8)(k + 3)$

4)  $m^2 - 2m - 63$

$(m + 7)(m - 9)$

5)  $x^2 + 4x + 3$

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

6)  $n^2 - 2n - 35$

$(n + 5)(n - 7)$

7)  $n^2 + 8n - 9$

$(n + 9)(n - 1)$

8)  $m^2 + 12m + 32$

$(m + 4)(m + 8)$

9)  $x^2 + x - 56$

$(x - 7)(x + 8)$

10)  $a^2 - 11a + 28$

$(a - 4)(a - 7)$

11)  $5b^3 - 13b^2 + 8b$

$b(5b - 8)(b - 1)$

12)  $7n^2 + 52n + 60$

$(7n + 10)(n + 6)$

$$13) 12b^3 + 42b^2$$
$$6b^2(2b + 7)$$

$$14) 3a^3 - 5a^2 - 28a$$
$$a(3a + 7)(a - 4)$$

$$15) 7n^2 - 5n - 18$$
$$(7n + 9)(n - 2)$$

$$16) 3x^2 - 40x + 100$$
$$(3x - 10)(x - 10)$$

$$17) 10x^3 - 48x^2 - 72x$$
$$2x(5x + 6)(x - 6)$$

$$18) 5n^2 - 21n + 18$$
$$(5n - 6)(n - 3)$$

$$19) 7r^3 - 73r^2 + 90r$$
$$r(7r - 10)(r - 9)$$

$$20) 5x^3 + 9x^2 + 4x$$
$$x(5x + 4)(x + 1)$$

**Solve each equation by factoring.**

$$21) x^2 = 4x$$
$$\{4, 0\}$$

$$22) 2n^2 = 6 + 4n$$
$$\{-1, 3\}$$

$$23) a^2 + 7 = -8a$$
$$\{-1, -7\}$$

$$24) k^2 - 9k = -14$$
$$\{7, 2\}$$

$$25) 3n^2 - 30 = 9n$$
$$\{5, -2\}$$

$$26) 4k^2 - 56 = 20k$$
$$\{7, -2\}$$