

## Factoring Review

**Factor each completely.**

1)  $4p^2 - 256$

$$4(p - 8)(p + 8)$$

2)  $5x^3 - 40x^2 + 35x$

$$5x(x - 1)(x - 7)$$

3)  $p^2 + 12p + 20$

$$(p + 2)(p + 10)$$

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

$$n^2(n + 5)$$

5)  $x^2 + 13x + 42$

$$(x + 7)(x + 6)$$

6)  $4m^2 + 4m - 360$

$$4(m + 10)(m - 9)$$

7)  $7v^3 - 39v^2 + 20v$

$$v(7v - 4)(v - 5)$$

8)  $2k^2 + 5k - 63$

$$(2k - 9)(k + 7)$$

9)  $2k^2 - 11k + 14$

$$(2k - 7)(k - 2)$$

10)  $2a^2 + 5a + 3$

$$(2a + 3)(a + 1)$$

11)  $r^2 + 6r + 9$

$$(r + 3)^2$$

12)  $4n^2 - 25$

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

$$13) 16x^2 - 8x + 1$$

$$(4x - 1)^2$$

$$14) 9m^2 - 16$$

$$(3m + 4)(3m - 4)$$

$$15) 5a^3 - 15a^2 - 2a + 6$$

$$(5a^2 - 2)(a - 3)$$

$$16) 3x^3 + 2x^2 + 21x + 14$$

$$(x^2 + 7)(3x + 2)$$

$$17) 8v^3 + 2v^2 + 12v + 3$$

$$(2v^2 + 3)(4v + 1)$$

$$18) n^3 + 2n^2 + n + 2$$

$$(n^2 + 1)(n + 2)$$

$$19) 14k^3 + 2k^2 + 21k + 3$$

$$(2k^2 + 3)(7k + 1)$$

$$20) 12b^3 + 32b^2 - 21b - 56$$

$$(4b^2 - 7)(3b + 8)$$

$$21) 125x^3 + 1$$

$$(5x + 1)(25x^2 - 5x + 1)$$

$$22) 2x^3 - 54$$

$$2(x - 3)(x^2 + 3x + 9)$$

$$23) 8u^3 - 27$$

$$(2u - 3)(4u^2 + 6u + 9)$$

$$24) 27x^3 + 8$$

$$(3x + 2)(9x^2 - 6x + 4)$$