

Greatest
Common
Factor

Factoring Review

Factor out the **GCF** from each of the terms in the following polynomials.

$$1. 6a^3 + 15a^1$$

$$= 3a^1(2a^2 + 5)$$

Check: $6a^3 + 15a$ ✓

$$2. 32b^2 + 12b$$

$$= 4b(8b + 3)$$

$$3. 12a^5b^2 + 16a^4b$$

$$= 4a^4b(3ab + 4)$$

$$4. -9x^2 + 18y^4$$

$$= -9(x^2 - 2y^4)$$

$$5. -7x^2 - 15y$$

$$= -1(7x^2 + 15y)$$

$$6. y^4 - 3y^2 - 2y$$

$$= y(y^3 - 3y - 2)$$

$$7. 2x^5 + 3x^4 - 4x^2$$

$$= x^2(2x^3 + 3x^2 - 4)$$

$$8. x^2y^4 - x^2y - 4x^2$$

$$= x^2(y^4 - y - 4)$$

Check: $x^2y^4 - x^2y - 4x^2$

$$9. a^5 + a^2$$

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

$$10. -3x^2y - 9xy + 12y$$

$$= -3y(x^2 + 3x - 4)$$

$$11. 25x^5 + 30x^3 - 15x^2$$

$$= 5x^2(5x^3 + 6x^2 - 3)$$

$$12. 20a^5b^3 + 30a^3b^2 - 40a^2b^3$$

$$= 10a^2b^2(2a^3b + 3a - 4b)$$

$$13. -4x^6 + 16x^{10} + 64x^{12}$$

$$= -4x^6(1 - 4x^4 - 16x^6)$$

$$14. 4xy + 8x^2y - 24x^4y^5$$

$$= 4xy(1 + 2x - 6x^3y^4)$$