

DO NOW

$$\text{GCF}(24a^3b^7c^2, 36a^4b^3c^6)$$

$$\boxed{12a^3b^3c^2}$$

Page 1

7.1 GCF Factoring - Day 2

GCF Factoring:

*** Reversing the distributive property

Procedure: 1. Find the GCF for all terms.

2. Put the GCF in front of the ().

3. Divide each term of the given polynomial by this GCF and put the result in the ().

Page 2

Examples: Factor out the GCF.

$$\begin{array}{ll} 1. \quad 3x^2 + 18x & \text{GCF}(3x^2, 18x) \\ 3x \left(\frac{3x^2}{3x} + \frac{18x}{3x} \right) & 3x \\ \boxed{3x(x + 6)} & \end{array}$$

$$\begin{array}{ll} 2. \quad 3x + 6y & \text{GCF}(3x, 6y) \\ 3 \left(\frac{3x}{3} + \frac{6y}{3} \right) & 3 \\ \boxed{3(x + 2y)} & \end{array}$$

Check by distributing

$$\begin{array}{ll} 3. \quad 4rs + 8st & \text{GCF} = 4s \\ \boxed{4s(r + 2t)} & \end{array}$$

$$\begin{array}{ll} 4. \quad 8mn - 4m & \\ \boxed{4m(2n - 1)} & \end{array}$$

Page 3

$$5. \quad \frac{x(x-3) + 3(x-3)}{(x-3)(x+3)}$$

$$6. \quad \frac{b(a+7) - 4(a+7)}{(a+7)(b-4)}$$

$$7. \quad \frac{9a^2b^5 - 27a^4b^3}{9a^2b^3(b^2 - 3a^2)}$$

$$8. \quad \frac{6a^2 + 24a + 15}{3(2a^2 + 8a + 5)}$$

$$9. \quad \frac{60ab^2 - 36a^2b}{12ab(5b - 3a)}$$

$$10. \quad \frac{6c^3d - 12c^2d^2 + 3cd}{3cd(2c^2 - 4cd + 1)}$$

Page 4

$$11. \quad 30x^3y^2z^4 - 70x^2yz^5$$

$$10x^2yz^4(3xy - 7z)$$

$$12. \quad 24m^5 - 26m^4 + 30m^2$$

$$2m^2(12m^3 - 13m^2 + 15)$$

$$13. \quad n^2(n-4) - 6(n-4)$$

$$(n-4)(n^2-6)$$

$$14. \quad g^3h + g^2h^3 - g^3h^2$$

$$g^2h(g+h^2-gh)$$

$$15. \quad 18b^2c - 3c$$

$$3c(6b^2-1)$$

$$16. \quad -9y^5 - 8y^4 - 7y^3$$

$$-y^3(9y^2+8y+7)$$

Page 5

HOMEWORK

Worksheet - HW 7.1 - Day 2

Page 6