Name _____ Date _____ Class _____

SKILL 4

Skills Readiness

Greatest Common Factors

To find the greatest common factor, or GCF, in algebraic expressions:

- Step 1: Find the GCF of the coefficients of the expressions.
- Step 2: Find the GCF of each variable by choosing the one with the smallest exponent.
- Step 3: Write the GCF of the two expressions as a product of the GCFs found in Steps 1 and 2.

Example: Find the GCF of $18xy^4$ and $30x^2y^2$.

Step 1	Step 2	Step 3
coefficients: 18 and 30	variables: xy^4 and x^2y^2	GCF of coefficients: 6
factors of 18: {1, 2, 3, **6**, 9, 18}	smallest exponent of x: x	GCF of variables: xy^2
factors of 30: {1, 2, 3, 5, **6**, 10, 15, 30}	smallest exponent of y: y^2	product: 6 times xy^2
GCF = 6	GCF = xy^2	GCF = $6xy^2$

Practice on Your Own

Find the greatest common factor of each pair of numbers or expressions.

1. 8 and 20 _____

2. 14 and 28 _____

3. $32a$ and $60a^3$ _____

4. x^3y and x^2y^4 _____

5. $18a^2$ and $42a^5$ _____

6. $4x^2y$ and $6x^2y^3$ _____

7. $16e^2f$ and $64ef^3$ _____

8. $28r^2st$ and $70rs^3$ _____

9. $10xyz$ *and* $5x^3z$ _____

Check

Find the greatest common factor of each pair of expressions.

10. 24 and 60 _____

11. $60e^4f$ and $24e^2f$ _____

12. $12a^5$ and $28a^3$ _____

13. $15gh$ and $8g^2h$ _____

14. $12a^3b^2$ and $30a^3d$ _____

15. $50x^5$ and $40x^3$ _____