

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Greatest Common Factors  
Algebra 1 Homework****Skills****Find the Greatest Common Factor,**

1. 56, 70

2. 35, 150

3.  $10m^2, 15m^3$

4.  $8ab^2c, 12a^2bc, 16abc^2$

**Find the Greatest Common Factor.**

5.  $4a, 4b$

6.  $a^2b^2, a^3b^3$

7.  $12x^4y^3, 32x^3y, -24xy^2$

8.  $8x, -11x^2, 16x^3$

**Factor out the GCF in each of the following expressions.**

9.  $6x^2 + 36$

10.  $2y^3 - y^2 + y$

11.  $4y^2 - 8y + 12$

12.  $4x^2 - 6x + 10$

13.  $49b^2 - 7b^3$

14.  $y^6 + y^4 + y^2$

15.  $8x^2 + 24x$

16.  $10x - 35$

17.  $6x^2 - 30x$

18.  $5x^2 + 15x - 20$

19.  $14x^2 - 49x$

20.  $27x^2 - 9x + 3$

21.  $x^4 - x^2$

22.  $12y^2x + 15yx^2 - 6yx$

### Applications

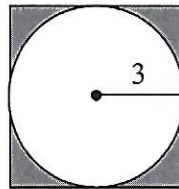
23. Which of the following expresses the shaded area below in terms of  $\pi$ ? Hint – Subtract the area of the circle from the area of the square, then factor.

(1)  $9(1 - \pi)$

(3)  $6(6 - \pi)$

(2)  $9(4 - \pi)$

(4)  $3(2 - \pi)$



24. If the width of a rectangle is given by  $3x$ , then which of the following represents its length if the area of the rectangle is  $12x^2 - 15x$ ?

(1)  $4x - 5$

(3)  $12x^2 - 12x$

(2)  $12x^2 - 18x$

(4)  $9x - 12$

### Reasoning

25. Rachel and Jackie were both asked to find some factors of the *same* number. Rachel said the number contains the factors of 4 and 3. Jackie found that it contained 6 and 5. The original number could have been:

(1) 30

(2) 36

(3) 60

(4) 80

26. Expressions can have GCF's that aren't just monomials. Consider the following two problems:

(a) Fill in the parentheses below.

$$3x(x+2) + 7(x+2) = (\text{_____})(x+2)$$

(b) Write the following expression as the product of two binomials:

$$2x(x-6) - 4(x-6)$$