

## MAT 055 Practice Test Chapter 13

All test answers are to be in simplest form. A calculator may be used.

Cell phones, iPads, and other electronic devices with scanning or photo ability may NOT be used.

No notes, no books, no homework may be used while taking this test.

Identify the greatest common factor for the expression.  
Then factor the expression.

1)  $6x^2y + 3xy - 6y^2$   
GCF is \_\_\_\_\_  
Factored Expression \_\_\_\_\_

2)  $13y^3 - 52y^2$   
GCF is \_\_\_\_\_  
Factored Expression \_\_\_\_\_

3)  $20y^4 + 8y^3 + 14y^2 + 2y$   
GCF is \_\_\_\_\_  
Factored Expression \_\_\_\_\_

Factor the polynomial completely. If the polynomial cannot be factored, write "prime."

4)  $x^3 + 2x^2 + 6x + 12$

5)  $4y^3 - 12y^2 + 5y - 15$

6)  $x(x + 7) - 3(x + 7)$

7)  $x^3 + 8x^2 - 6x - 48$

8)  $x^2 + 11x + 18$

9)  $y^2 - 11y + 30$

10)  $n^2 + 2n - 63$

11)  $z^2 - 2z - 15$

12)  $9x^2 + 20x + 4$

13)  $9x^2 - 44x + 32$

14)  $7x^2 - 41x - 56$

15)  $8x^2 + 36x - 20$

Factor the polynomial completely. If the polynomial cannot be factored, write "prime."

16)  $x^2 - 144$

17)  $x^2 + 36$

18)  $64y^2 - 81$

19)  $100 - z^2$

20)  $x^2 + 30x + 225$

21)  $y^2 - 12y + 144$

22)  $5x^2 + 30x + 45$

23)  $64x^2 - 112x + 49$

24)  $z^3 + 343$

25)  $x^3 - 512$

26)  $125y^3 + 1$

Solve the equation.

27)  $y(y + 17) = 0$

28)  $(3y - 8)(7y - 6) = 0$

29)  $x^2 - 3x = 0$

30)  $36y^2 - 49 = 0$

31)  $6x^2 = 41x + 7$

32)  $x(x - 6) = 55$

Practice Ch 13 - Factoring

**Solve.**

- 33) The height  $h$  in feet of a baseball after  $t$  seconds is given by  $h = -16t^2 + 80t + 32$ . At what value of  $t$  is the height of the baseball 132 feet?

- 34) The braking distance  $D$  in feet required for a car traveling  $x$  miles per hour to stop on wet, level pavement can be approximated by  $D = \frac{1}{9}x^2$ . If the braking distance is 41 feet, estimate the speed of the car. If necessary, round to the nearest mile per hour.