Numbers, Relations & Functions 10 **Name: _____**
Chapter 3: Factoring Test Review

1.Write the prime factorization of 2800. ***(Must use the Factor tree)***

2.Find the GCF and LCM of each of the following
a) 45, 60 b) 18, 24 c) 180, 150

3.Factor the trinomial. $-48x^4y^7 + 24x^3y^3 - 36x^2y$

4.Simplify the expression $16y^2 + 11y + 8 + 5y^2 - 2y + 7$, then factor.

5.Factor: $k^2 - 16k + 28$

6.Complete the following $(x \_\_\_)(x + 7) = x^2 + 5x - \_\_)$

7.Find an integer to replace □ so that this trinomial is a perfect square. $64x^2 - \square x + 25$
Hint: $a^2 - 2ab + b^2 = (a-b)^2$

8)State the product prime for each of the following ***(Factor tree)***
a) 4900 b) 360

9)Simplify $15x^5b^7 - 10x^3b^5 + 12x^3 - 7x^5b^7 + 30x^3b^5 + 8x^3$, **then factor. (**SHOW ALL WORK)

10)**Expand and simplify each of the following (Show work)**

a) (3x+ 9) (4x-8) b) (3x+4) (2x-7) + (-2x +4) (5x-3)

11) <u>Completely</u> factor each of the following (Hint: may require more than one step)

a) $18x^5y^3 + 24x^7y^2 - 21x^5y^8 - 9x^2y^4$

b) $9m^2 - 16$

c) $n^2 - 7n - 18$

d) $x^2 - 6x + 7$

e) $k^2 + 14x - 32$

f) $3x^2 - 8x + 4$

g) $5x^2 - 17x - 12$

h) $x^2 - 14x + 49$

i) $2x^2 - 22x + 60$ (Factor completely)

j) $25b^2 - 60b + 36$

k) $12v^2 - 27$ (Factor completely)

L) $15x^2y^2 - 60xy$