

# PC11 Factoring Assignment

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

1. Factor  $3x^2 - 3x$

2. Factor by pulling out the GCF:  
 $8x^6yz^3 - 12x^3y^4z^4 + 6x^2y^4z^5$

3. True or False:

a.  $(a + b)^2 = a^2 + b^2$

b.  $x^2 + y^2 = (x + y)(x - y)$

c.  $x^3 + y^3 = (x + y)(x - xy + y^2)$

4. Factor  $b^2 - 25$

5. Factor  $100x^2 - 49y^8$

6. Factor  $2x^3 - 50x$

7. Factor  $x^2 - 2x - 15$

8. Factor  $6x^2 - x - 1$

9. Factor  $-4x^2 - 26x - 12$

10. Factor  $10x^2 - 140x + 330$

11. Factor  $12x^2 + 19x - 21$

12. Factor  $x^2(x + 3) + 4(x + 3)$

13. Factor  $x^2(x - 5) + (5 - x)(25)$

14. Factor  $(x^2 - 4)^2 - (x^2 - 4) - 12$

15. Enrichment: Factor  $2 \cos^2 \theta + 3 \cos \theta - 2$

16. Factor  $\frac{x^2}{4} - 2x + 3$

17. Factor  $\pi^{6x} - e^2$

18. Factor by grouping:  $6x^3 + 3x^2 + 8x + 4$

19. Find the possible values of  $k$  such that  
 $4x^2 + kx - 6$  can be factored