Name: Date: Period:

**Calculus Connection 2**

Directions: Show your work on this paper, on the back of this paper, or on an additional sheet. Please use your notes as a reference to complete the work asked for in each problem.

**Please perform the following derivatives:**

1. 

2. 

3. 

4. 

5. ∫

6. 

7. 

8. 

**Please perform the following integrals:**

9. ∫*dx* =

10. ∫*xdx*

11. ∫*x2dx*

12. ∫*-9.8xdx*

13. *∫-9.8dt*

14. *∫aydt*

15. *∫(ayt+v0y)dt*

16. ∫*v0xdt*

**Please provide the indicated information:**

17. A projectile is launched at 25 m/s at 30° to the horizon. What is the maximum range of the projectile? What is the time of flight?

18. For the projectile in problem #17, what is the maximum height reached?