Test 1 Review:

1. If  Find the following:

a)  b) 

c)  d) 

e)  f) 

g) Is  orthogonal to   h) 

1. Projection of a onto b.

2. Find the distance between two points Plot the points also.

3. Let u = <2, − 2>and v =< − 5,1>.Find the component form and magnitude (length) of the vector 6u − 3v.

4. Find the equation of the sphere the passes through the point (3, -1, 2) and has the

center (1, 2, -1).

6.

a. Find the center and the radius of the sphere

b. Find the center and radius of the sphere.

(x + 8)2 + y2 + (z − 8)2 = 28

6. Find the area of the triangle determined by the points P, Q, and R.

7. Find the length L of the curve for

8. Let R be the region bounded by the graphs of the curve and the line x =4.

a) Set up the integral to find the volume of the solid region obtained by revolving the region about the y axis.

b) Set up the integral to find the volume of the solid region obtained by revolving the region about the line x =4.

9. Let R be the region bounded by the curves and the line . Find the volume of the solid generated by revolving R about the x axis.

10. Find the volume of the solid generated by revolving the region bounded by the curves , y = 0, x = 0, and x = 1 about the x axis. Draw the solid and sketch a typical disk or washer. Answer:

11. Find the volume of the solid generated by revolving the region bounded by the curves , y = , x = 0, and x = 1 about the line y = 1. Draw the solid and sketch a typical disk or washer. Answer: π/6

12. Set up the integral to find the length of the curve

13. Evaluate the integrals

1. 11.
2. 12.
3. 13.
4. 14.
5. 15.
6. 16.
7. 17.
8. 18.
9. 19.
10. 20.

21. 23. 

22. 24. 

25. 