

Math 234

Quiz 2

Due November 17th

Circle one: T 8:50 T 9:55 R 8:50 R 9:55

1. Find the least distance between the origin and the plane $x + 3y - 2z = 4$

2. Solve:

$$\int_0^1 \int_0^1 \frac{y}{(xy+1)^2} dx dy$$

3. Rewrite the following integral with the order of integration changed:

$$\int_{1/2}^1 \int_{x^3}^x f(x, y) dy dx$$

4. Evaluate:

$$\int_0^{\pi/2} \int_0^{\sin(y)} e^x \cos(y) dx dy$$

5. Integrate:

$$\int_0^\pi \int_0^{\frac{4}{1+\sin(\theta)}} r^2 \cos(\theta) dr d\theta$$

6. Compute: $\int_0^3 \int_0^{\sqrt{9-x^2}} 3y^2 dy dx$

7. Find the surface area of the part of the surface $z = \sqrt{4-y^2}$ that is in the first octant (i.e. $x > 0, y > 0$) and is directly above the circle $x^2 + y^2 = 4$ in the xy -plane.