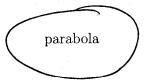
$MATH\ 213-QUIZ\ 6-6\ MARCH\ 2012$

Answer the following question in the space provided. There is no need to justify your answers. This quiz is worth 5 points.

1. A typical level curve of the function $f(x,y)=(2x+y^2)^{1/2}$ is a(n) (circle one)

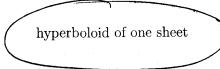


ellipse

hyperbola

2. The surface given by the equation $x^2 + y^2 - z^2 = 1$ is a (circle one)

hyperbolic paraboloid



hyperboloid of two sheets

3. Traces of the surface $z^2 + 4y^2 - x^2 = 1$ in planes parallel to the x - y plane are (circle one)

parabolas

ellipses

hyperbolas

4. The plane given by the equation 2x + 3y = 5 + z (circle one)

is parallel to the y-axis

contains the origin

contains the line $\mathbf{r}(t) = \langle 1, 2, 3 \rangle + t \langle 3, 1, 0 \rangle$

5. The graph of the function $f(x,y) = 2x^2 - 3y^2$ is a (circle one)

paraboloid

hemisphere (i.e., half a sphere)

hyperbolic paraboloid

MATH 213 - QUIZ 6 - 6 MARCH 2012

Answer the following question in the space provided. There is no need to justify your answers. This quiz is worth 5 points.

1. A level curve of the function $f(x,y) = (2x^2 + y^2 + 1)^{1/2}$ can be a (circle one).

parabola ellipse hyperbola

2. The surface given by the equation $2x^2 + y^2 + 1 = z^2$ is a (circle one).

hyperbolic paraboloid hyperboloid of one sheet hyperboloid of two sheets

3. Traces of the surface $x - 2z^2 = 0$ in planes parallel to the y - z plane are (circle one)

parabolas lines hyperbolas

4. An equation of the plane containing the points (1,1,-1), (0,2,1), and (1,0,0) is (circle one) (Hint: This problem is easier than it looks. Don't do any unnecessary work.)

x + y + z = 1 -x + y - z = 1 3x + y + z = 3

5. The graph of the function $f(x,y) = (1 - x^2 - y^2)^{1/2}$ is a (circle one)

paraboloid hemisphere (i.e., half a sphere) hyperbolic paraboloid

MATH 213 - QUIZ 6 - 6 MARCH 2012

Answer the following question in the space provided. There is no need to justify your answers. This quiz is worth 5 points.

1. A typical level curve of the function $f(x,y) = \frac{x^2}{16} - y^2$ is a(n) (circle one)

parabola

ellipse

hyperbola

2. The surface given by the equation $6y + \frac{x^2}{6} - \frac{z^2}{24} = 0$ is a (circle one)

hyperbolic paraboloid

hyperboloid of one sheet

hyperboloid of two sheets

3. Traces of the surface $z^2 + 4y^2 - x^2 = 1$ in planes parallel to the y-z plane are (circle one)

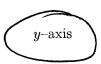
parabolas



hyperbolas

4. The cylinder given by the equation $x - 2z^2 = 0$ is parallel to the (circle one)

x-axis



z-axis

5. The graph of the function $f(x,y) = 2x^2 + 3y^2$ is a (circle one)

paraboloid

hemisphere (i.e., half a sphere)

hyperbolic paraboloid