# Question 1

The domain of definition of the function

$$f(x, y) = \sqrt{25 - x - y}$$

is:

**A.** The half of $xy$-plane

**B.** The $xy$-plane

**C.** The disk with center at the origin and radius 5

**D.** The first quadrant

# Question 2

The domain of definition of the function

$$f(x, y) = -16 - x^2 - y^2$$

is:

**A.** The $xy$-plane

**B.** The disk with center at the origin and radius 4

**C.** The exterior of the circle with center at the origin and radius 4

**D.** The segment [-4, 4]

# Question 3

The domain of definition of the function

$$f(x, y) = x^2 + y^2 - 16$$

is:

**A.** The half of $xy$-plane

**B.** The $xy$-plane

**C.** The disk with center at the origin and radius 4

**D.** The first quadrant

# Question 4

The domain of definition of the function

$$f(x,y) = 5(1 - \frac{x}{4} - \frac{y}{25})$$

is:

**A.** The half of $xy$-plane

**B.** The $xy$-plane

**C.** The interior of an ellipse

**D.** The segment [-2, 5]

# Question 5

The domain of definition of the function

$$f(x, y) = \sqrt{25 - x^2 - y^2}$$

is:

**A.** The disk with center at the origin and radius 5

**B.** The exterior of the circle with center at the origin and radius 5

**C.** The disk with center at the origin and radius 25

**D.** The segment [-5, 5]

# Question 6

The domain of definition of the function

$$f(x,y) = \sqrt{x^2 + y^2 - 25}$$

is:

**A.** The half of $xy$-plane

**B.** The disk with center at the origin and radius 5

**C.** The exterior of the circle with center at the origin and radius 5

**D.** The first quadrant

# Question 7

The domain of definition of the function

$$f(x, y) = x^2 + y^2 - 25$$

is:

**A.** The half of $xy$-plane

**B.** The $xy$-plane

**C.** The disk with center at the origin and radius 5

**D.** The first quadrant

# Question 8

The domain of definition of the function

$$f(x, y) = 25 - x^2 - y^2$$

is:

**A.** The $xy$-plane

**B.** The disk with center at the origin and radius 5

**C.** The exterior of the circle with center at the origin and radius 5

**D.** The segment [-5, 5]

# Question 9

The domain of definition of the function

$$f(x, y) = \sqrt{16 - x - y}$$

is:

**A.** The half of $xy$-plane

**B.** The $xy$-plane

**C.** The disk with center at the origin and radius 4

**D.** The first quadrant

# Question 10

The domain of definition of the function

$$f(x, y) = \sqrt{16 - x^2 - y^2}$$

is:

**A.** The disk with center at the origin and radius 4

**B.** The exterior of the circle with center at the origin and radius 4

**C.** The disk with center at the origin and radius 16

**D.** The segment [-4, 4]

# Question 11

The domain of definition of the function

$$f(x, y) = \sqrt{x^2 + y^2 - 16}$$

is:

**A.** The half of $xy$-plane

**B.** The disk with center at the origin and radius 4

**C.** The exterior of the circle with center at the origin and radius 4

**D.** The first quadrant

# Question 12

The level curves of the function

$$f(x, y) = \sqrt{16 - x^2 - 4y^2}$$

are:

**A.** Straight lines

**B.** Concentric circles

**C.** Hyperbolas

**D.** Ellipses

# Question 13

The level curves of the function

$$f(x, y) = 3(1 - \frac{x}{2} - \frac{y}{5})$$

are:

**A.** Straight lines

**B.** Concentric circles

**C.** A pair of straight lines

**D.** Ellipses

# Question 14

The level curves of the function

$$f(x,y) = \sqrt{25 - x^2 - y^2}$$

are:

**A.** Straight lines

**B.** Concentric circles

**C.** Hyperbolas

**D.** Ellipses

# Question 15

The level curves of the function

$$f(x, y) = \sqrt{25 - x - y}$$

are:

**A.** Straight lines

**B.** Concentric circles

**C.** Hyperbolas

**D.** A pair of straight lines

# Question 16

The level curves of the function

$$f(x,y) = \sqrt{25 - x^2 + y^2}$$

are:

**A.** Straight lines

**B.** Concentric circles

**C.** Hyperbolas

**D.** Ellipses

# Question 17

The level curves of the function

$$f(x, y) = x^2 - y^2$$

are:

**A.** Straight lines

**B.** Concentric circles

**C.** Hyperbolas

**D.** Ellipses

# Question 18

The level curves of the function

$$f(x, y) = \sqrt{25 - x^2 - 5y^2}$$

are:

**A.** Straight lines

**B.** Concentric circles

**C.** Hyperbolas

**D.** Ellipses

# Question 19

The level curves of the function

$$f(x, y) = \sqrt{16 - x^2 - y^2}$$

are:

**A.** Straight lines

**B.** Concentric circles

**C.** Hyperbolas

**D.** The ellipses

# Question 20

The level curves of the function

$$f(x, y) = \sqrt{16 - x - y}$$

are:

**A.** Straight lines

**B.** Concentric circles

**C.** Hyperbolas

**D.** Ellipses

# Question 21

The level curves of the function

$$f(x, y) = \sqrt{16 - x^2 + y^2}$$

are:

**A.** Straight lines

**B.** Concentric circles

**C.** Hyperbolas

**D.** Ellipses

# Question 22

The level curves of the function

$$f(x, y) = 16 - x^2 - 4y^2$$

are:

**A.** Straight lines

**B.** Concentric circles

**C.** Hyperbolas

**D.** Ellipses

# Question 23

The level surfaces of the function

$$f(x, y, z) = \sqrt{16 - x^2 - y^2 - 4z^2}$$

are:

**A.** Ellipsoids
**B.** Cones
**C.** Planes
**D.** Spheres

# Question 24

The level surfaces of the function

$$f(x, y, z) = 16 - x - y - 4z$$

are:

**A.** Ellipsoids
**B.** Cones
**C.** Planes
**D.** Spheres

# Question 25

The level surfaces of the function

$$f(x, y, z) = 16 - x^2 - 4y^2$$

are:

**A.** Cylinders
**B.** Planes
**C.** Ellipses
**D.** Ellipsoids