

1. Find the equation of the plane that is parallel to the plane $3x + 2y - z = 0$ and passes through the point $(1, 1, 1)$.

2. Find the value of c such that the planes $x - 2y + z = 1$ and $2x + y - cz = 5$ are orthogonal.

3. Given $f(x, y) = 4x + y - 3$, describe the level curves at $z = 1$ and at $z = 2$.

4. Given that $x^2 + 3y^2 + z = 2$, give the equation for the trace when $x = 1$, namely give the equation for z in terms of y .

Also circle the appropriate description of that trace:

- a) Circle b) Ellipse c) Parabola d) Line e) Point.

1. Find the equation of the plane that is parallel to the plane $2x + 2y - z = 0$ and passes through the point $(1, 1, 1)$.

2. Find the value of c such that the planes $x - 3y + z = 1$ and $2x + y - cz = 5$ are orthogonal.

3. Given $f(x, y) = 4x + y - 3$, describe the level curves at $z = 0$ and at $z = 2$.

4. Given that $x^2 + 3y^2 + z = 2$, give the equation for the trace when $x = 1$, namely give the equation for z in terms of y .

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