

Partial Differentiation
Functions of more than one variable

Question

Specify the domain of the function.

$$f(x, y, z) = \frac{e^{xyz}}{\sqrt{xyz}}$$

Answer

The domain consists of all points (x, y, z) where $xyz > 0$. i.e all points in the four octants:

$$x > 0, y > 0, z > 0$$

$$x > 0, y < 0, z < 0$$

$$x < 0, y > 0, z < 0$$

$$x < 0, y < 0, z > 0$$