

2.

$$xyz = 8$$

$$z = \frac{8}{xy}$$

MNV

$$S = x + y + z$$

$$S = x + y + \frac{8}{xy}$$

$$S = x + y + 8x^{-1}y^{-1}$$

$$S_x = 1 - 8x^{-2}y^{-1}$$

$$= 1 - \frac{8}{x^2y}$$

$$1 - \frac{8}{x^2y} = 0$$

$$1 = \frac{8}{x^2y}$$

$$x^2y(1) = x^2y\left(\frac{8}{x^2y}\right)$$

$$x^2y = 8$$

$$y = \frac{8}{x^2}$$

$$S_y = 1 - 8x^{-1}y^{-2}$$

$$= 1 - \frac{8}{xy^2}$$

$$1 - \frac{8}{xy^2} = 0$$

$$1 = \frac{8}{xy^2}$$

$$xy^2(1) = xy^2\left(\frac{8}{xy^2}\right)$$

$$xy^2 = 8$$

$$x = \frac{8}{y^2}$$

$$x = \frac{8}{\left(\frac{8}{x^2}\right)^2}$$

$$x = \frac{8}{\frac{64}{x^4}}$$

$$x = 8 \cdot \frac{x^4}{64}$$

$$x = \frac{x^4}{8}$$

$$8x = x^4$$

$$0 = x^4 - 8x$$

$$0 = x(x^3 - 8)$$

$$x \neq 0 \quad x^3 - 8 = 0$$

$$x^3 = 8$$

$$(x^3)^{\frac{1}{3}} = 8^{\frac{1}{3}}$$

$$x = \sqrt[3]{8}$$

$$x = \sqrt[3]{2 \cdot 2 \cdot 2}$$

$$x = 2$$

AND  $y = \frac{8}{x^2}$

$$y = \frac{8}{2^2}$$

$$y = 2$$

$$z = \frac{8}{xy}$$

$$z = \frac{8}{2(2)}$$

$$z = 2$$

$$x=2 \quad y=2 \quad z=2$$