

Question:

If $0 \leq x \leq 2\pi$, then values of x and y that will satisfy

$$2^{\operatorname{cosec}^2 x} \sqrt{\frac{1}{2}y^2 - y + 1} \leq \sqrt{2}$$

(1) $x = \frac{\pi}{2}$

(2) $x = \frac{3\pi}{2}$

(3) $y = 2$

(4) $y = 3$

- a) 1 and 2 are correct
- b) 1 and 3 are correct
- c) 1, 2 and 3 are correct
- d) 2 and 4 are correct

Answer: 1 and 2 are correct