

Mathematics

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(Chapter – 1) (Number Systems)(Exemplar Problems)

(Class – IX)

Exercise 1.1

Write the correct answer in each of the following:

Question 16:

If $\sqrt{2} = 1.4142$, then $\sqrt{\frac{\sqrt{2}-1}{\sqrt{2}+1}}$ is equal to

(A) 2.4142

(B) 5.8282

(C) 0.4142

(D) 0.1718

 **Answer 16:**

(C) 0.4142

Solution:

$$\sqrt{\frac{\sqrt{2}-1}{\sqrt{2}+1}} = \sqrt{\frac{\sqrt{2}-1}{\sqrt{2}+1} \times \frac{\sqrt{2}-1}{\sqrt{2}-1}}$$



$$= \sqrt{\frac{(\sqrt{2}-1)^2}{2-1}} = \sqrt{2} - 1 = 1.4142 - 1 = 0.4142$$

