

A2.A.59: Reciprocal Trigonometric Relationships: Use the reciprocal and co-function relationships to find the value of the sec, csc, and cot of 0° , 30° , 45° , 60° , 90° , 180° , 270°

1 The exact value of $\csc 120^\circ$ is

1) $\frac{2\sqrt{3}}{3}$

2) 2

3) $-\frac{2\sqrt{3}}{3}$

4) -2

2 Express the exact value of $\csc 60^\circ$, with a rational denominator.

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Answer Section

1 ANS: 1

$$\sin 120 = \frac{\sqrt{3}}{2} \quad \csc 120 = \frac{2}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$$

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2 ANS:

$$\frac{2\sqrt{3}}{3}. \text{ If } \sin 60 = \frac{\sqrt{3}}{2}, \text{ then } \csc 60 = \frac{2}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$$

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