

Q1. If $\sin 45^\circ = \frac{1}{\sqrt{2}}$, then find the value of $\sin 90^\circ$.

(NCVT – 1991 Draft. Civil/Mec.)

Q2. If $\tan \theta = \sqrt{3}$, find the value of $\sin \theta$.

(NCVT – 1995 W/M)

Q3. Find the value of $\sin 390^\circ$.

(NCVT-1996 Draft Civil/Mech.)

Q4. If $\sin \theta = \frac{3}{5}$, find the value of $\sec \theta$.

(NCVT – 1998 Instrument Mec.)

Q5. Evaluate :

(a) $\operatorname{cosec}^2 30^\circ \sin^2 45^\circ - \sec^2 60^\circ$

(b) $\operatorname{cosec} 30^\circ - \sin 60^\circ + \tan 45^\circ$

(NCVT – 1995 Ref., Inst., T/Die)

Q6. Evaluate :

(a) Find $\cos 37^\circ$.

(b) Find $\operatorname{cosec} 48^\circ$.

(NCVT – 1998 Draft. Civil/Mec.)

Q7. Evaluate :

(a) $\frac{\tan 45^\circ}{\operatorname{cosec} 30^\circ} + \frac{\sec 60^\circ}{\cot 45^\circ} - \frac{2 \sin 90^\circ}{\cos 0^\circ}$

(b) $\frac{\tan^3 45^\circ - \cos^2 60^\circ}{\sin 45^\circ \cos 45^\circ \cot 30^\circ}$

(c) $\operatorname{cosec}^2 30^\circ \sin^2 45^\circ - \sec^2 60^\circ$

(d) $\cos 30^\circ \operatorname{cosec} 45^\circ - \sin^2 30^\circ \tan 45^\circ$

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$$(e) 4 \cot^2 45^\circ - \sec^2 60^\circ + \sin^2 60^\circ + \cos^2 90^\circ$$

$$(f) \frac{\sin 60^\circ}{\cos^2 45^\circ} - \cot 30^\circ + 5 \cos 90^\circ$$

$$(g) 3 \csc^2 30^\circ + \sec^2 30^\circ + 2 \cos 0^\circ + 3 \sin 90^\circ - \tan^2 60^\circ$$

$$(h) 2 \sin^4 30^\circ - 3 \cos^2 45^\circ + \tan^2 60^\circ$$

$$(i) \frac{\tan^2 60^\circ + 4 \cos^2 45^\circ + 3 \sec^2 30^\circ + 5 \cos^2 90^\circ}{\operatorname{cosec} 30^\circ + \sec 60^\circ - \cot^2 30^\circ}$$

ANSWERS 1

1. 1

4. $\frac{5}{4}$

2. $\frac{\sqrt{3}}{2}$

5. (a) -2 , (b) $\frac{9}{4}$

3. 0.5

6. (a) 0.798, (b) 1.345

7. (a) $\frac{1}{2}$ (b) $\frac{\sqrt{3}}{2}$ (c) -2 (d) $\frac{\sqrt{6}-1}{2}$ (e) $\frac{3}{4}$ (f) 0 (g) 5 (h) 2 (i) $\frac{4}{3}$
8. $\sqrt{\frac{3}{8}}$ 9. (a) -2, (b) 2.25 10. $\frac{5}{4}$
11. $\frac{4}{3}$ 12. 1.861 13. 0.414
14. $\frac{1}{\sqrt{2}}$ 15. 1.331 16. $\frac{3}{4}$
17. 0 18. (a) 5.673, (b) 0.5, (c) 1, (d) 0
19. (a) -1, (b) 1 20. (a) 0.3090, (b) 3.0777, (c) 0.3249