Name : .....

MATH MONKS

# Trigonometric Ratios of Special Angles

## Evaluate

1. $\frac{\tan 45^\circ}{\operatorname{cosec} 30^\circ} + \frac{\sec 60^\circ}{\cot 45^\circ} - \frac{5\sin 90^\circ}{2\cos 0^\circ}$

2. $\frac{4\cot^2 60^\circ + \sec^2 30^\circ - 2\sin^2 45^\circ}{\cos^2 30^\circ + \cos^2 45^\circ}$

3. $3\sin^2 45^\circ + 4\cos^2 45^\circ$

4. $\cot^2 30^\circ \sec^2 45^\circ + \operatorname{cosec}^2 45^\circ \cos 60^\circ$

5. $\sin 60^\circ \tan 30^\circ$

6. $4\cot^2 45^\circ - \sec^2 60^\circ + \sin^2 60^\circ + \cos^2 60^\circ$

7. $\frac{\tan 45^\circ}{\tan 30^\circ + \tan 60^\circ}$

8. $2(\cos^2 45^\circ + \tan^2 60^\circ) - 6(\sin^2 45^\circ - \tan^2 30^\circ)$

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Answers

1. $\frac{\tan 45^\circ}{\operatorname{cosec} 30^\circ} + \frac{\sec 60^\circ}{\cot 45^\circ} - \frac{5\sin 90^\circ}{2\cos 0^\circ}$

0

2. $\frac{4\cot^2 60^\circ + \sec^2 30^\circ - 2\sin^2 45^\circ}{\cos^2 30^\circ + \cos^2 45^\circ}$

$\frac{4}{3}$

3. $3\sin^2 45^\circ + 4\cos^2 45^\circ$

$\frac{7}{2}$

4. $\cot^2 30^\circ \sec^2 45^\circ + \operatorname{cosec}^2 45^\circ \cos 60^\circ$

7

5. $\sin 60^\circ \tan 30^\circ$

$\frac{1}{2}$

6. $4\cot^2 45^\circ - \sec^2 60^\circ + \sin^2 60^\circ + \cos^2 60^\circ$

1

7. $\frac{\tan 45^\circ}{\tan 30^\circ + \tan 60^\circ}$

$\frac{\sqrt{3}}{4}$

8. $2(\cos^2 45^\circ + \tan^2 60^\circ) - 6(\sin^2 45^\circ - \tan^2 30^\circ)$

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