MATHS

Trigonometric Identities Worksheet for MAH MCA CET 2025

For students preparing for MCA Entrance Exam.

---

1. If for real value of x, $cos\theta = x + \frac{1}{x}$ then
   - A. θ is an acute angle
   - B. θ is an right angle
   - C. θ is an obtuse angle
   - D. No value of θ is possible

2. Which of the following is correct?
   - A. $tan1 > tan 2$
   - B. $tan 1 = tan 2$
   - C. $tan 1 < tan 2$
   - D. $tan 1 = 1$

3. Which of the following relations is correct?
   - A. $sin1 < sin 1°$
   - B. $sin 1 > sin 1°$
   - C. $sin 1 = sin 1°$
   - D. $\frac{\pi}{180} sin1 = sin 1°$

4. $tan 1° \; tan 2° \; tan 3° \; tan 4° \; .... \; tan 89°$ is equal to
   - A. 1
   - B. 0
   - C. ∞
   - D. $\frac{1}{2}$

5. If $sin x + sin y = 3 (cos y – cos x)$, then the value of $\frac{sin3x}{sin3y}$ is
   - A. 1
   - B. -1
   - C. 0
   - D. None of these

6. If θ lines in the second quadrant, then the value of

$$\sqrt{\left(\frac{1-sin\theta}{1+sin\theta}\right)} + \sqrt{\left(\frac{1+sin\theta}{1-sin\theta}\right)}$$

   - A. 2secθ
   - B. -2secθ
   - C. 2cosecθ
   - D. None of these

7. If $tan\theta + sec\theta = e^x$ then cosθ is equal to
   - A. $\frac{(e^x + e^{-x})}{2}$
   - B. $\frac{2}{(e^x + e^{-x})}$
   - C. $\frac{(e^x - e^{-x})}{2}$
   - D. $\frac{(e^x - e^{-x})}{(e^x + e^{-x})}$

8. If $sin\theta_1 + sin\theta_2 + sin\theta_3 = 3$ then $cos\theta_1 + cos\theta_2 + cos\theta_3$ is equal to
   - A. 3
   - B. 2
   - C. 1
   - D. 0

9. $(sec A + tan A - 1) (sec A – tan A + 1) - 2tan A$ is equal to
   - A. sec A
   - B. 2sec A

C. 0
D. 1

10. If $\sin\theta + \sin 2\theta + \sin 3\theta = \sin\alpha$ and
$\cos\theta + \cos 2\theta + \cos 3\theta = \cos\alpha$, then θ is equal to
  A. $\alpha / 2$
  B. α
  C. 2α
  D. $\alpha / 6$

Answer Key

1. D	2. A	3. B	4. A	5. B	6. B	7. B	8. D	9. C	10. A