

Answer Key

Testname: UNTITLED1

- 1) A
- 2) B
- 3) B
- 4) B
- 5) B
- 6) C
- 7) B

8) $\tan^2 x = \sec^2 x - 1 = \sec^2 x - (\sin^2 x + \cos^2 x) = \sec^2 x - \sin^2 x - \cos^2 x.$

9) $1 + \sec^2 x \sin^2 x = 1 + \frac{\sin^2 x}{\cos^2 x} = 1 + \tan^2 x = \sec^2 x.$

- 10) B
- 11) B
- 12) B
- 13) D

14) $\frac{1}{2} \sqrt{2 - \sqrt{2}}$

- 15)
- 16)

$157.5 = \frac{315}{2}$

$\cos\left(\frac{315}{2}\right) = \sqrt{\frac{1 + \cos 315}{2}} = \sqrt{\frac{1 + \frac{\sqrt{2}}{2}}{2}} = \sqrt{\frac{2 + \sqrt{2}}{4}}$

15) $\frac{2 + \sqrt{2}}{2}$

16) $\sin\left(-\frac{135}{2}\right) = -\sqrt{\frac{1 - \cos 135}{2}} = -\sqrt{\frac{1 - -\frac{\sqrt{2}}{2}}{2}} = -\sqrt{\frac{2/2 + \sqrt{2}/2}{2}} = -\sqrt{\frac{2 + \sqrt{2}}{4}}$

(16) $= -\frac{2 + \sqrt{2}}{2}$