

Honors Algebra 2 Chapter 14 Review Answer Section

MULTIPLE CHOICE

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

SHORT ANSWER

13. $\tan^2 x - \tan^2 x \sin x$

14. $-2 \tan x \sec x$

15. $\cot^2 x - 1$

16. $\frac{\sqrt{6} + \sqrt{2}}{4}$

17. $\frac{8\sqrt{113}}{113}$

18. $\cot x$

19. $\cos x \sin x$

20. $-2 \csc^2 x$

21. $1 - 2 \sin x \cos x = (\sin x - \cos x)^2$
 $= \sin^2 x - 2 \sin x \cos x + \cos^2 x$
 $= (\sin^2 x + \cos^2 x) - 2 \sin x \cos x$
 $= 1 - 2 \sin x \cos x$

$$\begin{aligned} 22. \quad \cos^2 x \sec^2 x - \cos^2 x &= \cos^2 x (\sec^2 x - 1) \\ &= \cos^2 x \tan^2 x \\ &= \cos^2 x \left(\frac{\sin x}{\cos x} \right)^2 \\ &= \cos^2 x \left(\frac{\sin^2 x}{\cos^2 x} \right) \\ &= \sin^2 x \end{aligned}$$
$$\begin{aligned} 23. \quad \cos(90^\circ - \theta) &= \cos 90^\circ \cos \theta + \sin 90^\circ \sin \theta \\ &= (0) \cos \theta + (1) \sin \theta \\ &= \sin \theta \end{aligned}$$
$$\begin{aligned} 24. \quad \sin(180^\circ - \theta) &= \sin 180^\circ \cos \theta - \cos 180^\circ \sin \theta \\ &= (0) \cos \theta - (-1) \sin \theta \\ &= \sin \theta \end{aligned}$$