



1. Express $\sin\theta$ in terms of $\cos\theta$

$$(i) \frac{\sqrt{1 - \cos^2\theta}}{\cos\theta} \quad (ii) \frac{1}{\sqrt{1 - \cos^2\theta}} \quad (iii) \frac{1}{\cos\theta} \quad (iv) \frac{\cos\theta}{\sqrt{1 - \cos^2\theta}} \quad (v) \frac{\sqrt{1 - \cos^2\theta}}{\cos\theta}$$

2. Express $\sin\theta$ in terms of $\tan\theta$

$$(i) \frac{\sqrt{1 + \tan^2\theta}}{\tan\theta} \quad (ii) \frac{\tan\theta}{\sqrt{1 + \tan^2\theta}} \quad (iii) \frac{1}{\tan\theta} \quad (iv) \frac{1}{\sqrt{1 + \tan^2\theta}} \quad (v) \frac{1}{\sqrt{1 + \tan^2\theta}}$$

3. Express $\sin\theta$ in terms of $\cot\theta$

$$(i) \frac{\sqrt{1 + \cot^2\theta}}{\cot\theta} \quad (ii) \frac{\cot\theta}{\sqrt{1 + \cot^2\theta}} \quad (iii) \frac{1}{\cot\theta} \quad (iv) \frac{1}{\sqrt{1 + \cot^2\theta}} \quad (v) \frac{1}{\sqrt{1 + \cot^2\theta}}$$

4. Express $\sin\theta$ in terms of $\sec\theta$

$$(i) \frac{\sqrt{\sec^2\theta - 1}}{\sec\theta} \quad (ii) \frac{1}{\sqrt{\sec^2\theta - 1}} \quad (iii) \frac{\sec\theta}{\sqrt{\sec^2\theta - 1}} \quad (iv) \frac{1}{\sqrt{\sec^2\theta - 1}} \quad (v) \frac{1}{\sec\theta}$$

5. Express $\sin\theta$ in terms of $\operatorname{cosec}\theta$

$$(i) \frac{\sqrt{\operatorname{cosec}^2\theta - 1}}{\operatorname{cosec}\theta} \quad (ii) \frac{1}{\sqrt{\operatorname{cosec}^2\theta - 1}} \quad (iii) \frac{1}{\sqrt{\operatorname{cosec}^2\theta - 1}} \quad (iv) \frac{1}{\operatorname{cosec}\theta} \quad (v) \frac{\operatorname{cosec}\theta}{\sqrt{\operatorname{cosec}^2\theta - 1}}$$

6. Express $\cos\theta$ in terms of $\sin\theta$

$$(i) \frac{\sqrt{1 - \sin^2\theta}}{\sin\theta} \quad (ii) \frac{1}{\sin\theta} \quad (iii) \frac{\sin\theta}{\sqrt{1 - \sin^2\theta}} \quad (iv) \frac{1}{\sqrt{1 - \sin^2\theta}} \quad (v) \frac{1}{\sqrt{1 - \sin^2\theta}}$$

7. Express $\cos\theta$ in terms of $\tan\theta$

$$(i) \frac{\sqrt{1 + \tan^2\theta}}{\tan\theta} \quad (ii) \frac{\tan\theta}{\sqrt{1 + \tan^2\theta}} \quad (iii) \frac{1}{\tan\theta} \quad (iv) \frac{1}{\sqrt{1 + \tan^2\theta}} \quad (v) \frac{1}{\sqrt{1 + \tan^2\theta}}$$

8. Express $\cos\theta$ in terms of $\cot\theta$

$$(i) \frac{1}{\sqrt{1 + \cot^2\theta}} \quad (ii) \frac{1}{\sqrt{1 + \cot^2\theta}} \quad (iii) \frac{1}{\cot\theta} \quad (iv) \frac{\cot\theta}{\sqrt{1 + \cot^2\theta}} \quad (v) \frac{\sqrt{1 + \cot^2\theta}}{\cot\theta}$$

9. Express $\cos\theta$ in terms of $\sec\theta$

$$(i) \frac{\sqrt{\sec^2\theta - 1}}{\sec\theta} \quad (ii) \frac{1}{\sec\theta} \quad (iii) \frac{1}{\sqrt{\sec^2\theta - 1}} \quad (iv) \frac{1}{\sqrt{\sec^2\theta - 1}} \quad (v) \frac{\sec\theta}{\sqrt{\sec^2\theta - 1}}$$

10. Express $\cos\theta$ in terms of $\operatorname{cosec}\theta$

$$(i) \frac{1}{\sqrt{\operatorname{cosec}^2\theta - 1}} \quad (ii) \frac{1}{\operatorname{cosec}\theta} \quad (iii) \frac{\operatorname{cosec}\theta}{\sqrt{\operatorname{cosec}^2\theta - 1}} \quad (iv) \frac{1}{\sqrt{\operatorname{cosec}^2\theta - 1}} \quad (v) \frac{\sqrt{\operatorname{cosec}^2\theta - 1}}{\operatorname{cosec}\theta}$$

11. Express $\tan\theta$ in terms of $\sin\theta$

$$(i) \frac{\sqrt{1 - \sin^2\theta}}{\sin\theta} \quad (ii) \frac{1}{\sqrt{1 - \sin^2\theta}} \quad (iii) \frac{1}{\sqrt{1 - \sin^2\theta}} \quad (iv) \frac{1}{\sin\theta} \quad (v) \frac{\sin\theta}{\sqrt{1 - \sin^2\theta}}$$

12. Express $\tan\theta$ in terms of $\cos\theta$

$$(i) \frac{\cos\theta}{\sqrt{1 - \cos^2\theta}} \quad (ii) \frac{\sqrt{1 - \cos^2\theta}}{\cos\theta} \quad (iii) \frac{1}{\cos\theta} \quad (iv) \frac{1}{\sqrt{1 - \cos^2\theta}} \quad (v) \frac{1}{\sqrt{1 - \cos^2\theta}}$$

13. Express $\tan\theta$ in terms of $\cot\theta$

$$(i) \frac{1}{\sqrt{1 + \cot^2\theta}} \quad (ii) \frac{1}{\sqrt{1 + \cot^2\theta}} \quad (iii) \frac{\cot\theta}{\sqrt{1 + \cot^2\theta}} \quad (iv) \frac{\sqrt{1 + \cot^2\theta}}{\cot\theta} \quad (v) \frac{1}{\cot\theta}$$

14. Express $\tan\theta$ in terms of $\sec\theta$

$$(i) \frac{\sec\theta}{\sqrt{\sec^2\theta - 1}} \quad (ii) \frac{1}{\sqrt{\sec^2\theta - 1}} \quad (iii) \frac{\sqrt{\sec^2\theta - 1}}{\sec\theta} \quad (iv) \frac{1}{\sqrt{\sec^2\theta - 1}} \quad (v) \frac{1}{\sec\theta}$$

15. Express $\tan\theta$ in terms of $\operatorname{cosec}\theta$

$$(i) \frac{\sqrt{\operatorname{cosec}^2\theta - 1}}{\operatorname{cosec}\theta} \quad (ii) \frac{\operatorname{cosec}\theta}{\sqrt{\operatorname{cosec}^2\theta - 1}} \quad (iii) \frac{1}{\sqrt{\operatorname{cosec}^2\theta - 1}} \quad (iv) \frac{1}{\operatorname{cosec}\theta} \quad (v) \frac{1}{\sqrt{\operatorname{cosec}^2\theta - 1}}$$

16. Express $\cot\theta$ in terms of $\sin\theta$

$$(i) \frac{\sqrt{1 - \sin^2\theta}}{\sin\theta} \quad (ii) \frac{\sin\theta}{\sqrt{1 - \sin^2\theta}} \quad (iii) \frac{1}{\sin\theta} \quad (iv) \frac{1}{\sqrt{1 - \sin^2\theta}} \quad (v) \frac{1}{\sqrt{1 - \sin^2\theta}}$$

17. Express $\cot\theta$ in terms of $\cos\theta$

(i) $\frac{\cos\theta}{\sqrt{1-\cos^2\theta}}$ (ii) $\frac{\sqrt{1-\cos^2\theta}}{\cos\theta}$ (iii) $\frac{1}{\sqrt{1-\cos^2\theta}}$ (iv) $\frac{1}{\sqrt{1-\cos^2\theta}}$ (v) $\frac{1}{\cos\theta}$

18. Express $\cot\theta$ in terms of $\tan\theta$

(i) $\frac{1}{\tan\theta}$ (ii) $\frac{\sqrt{1+\tan^2\theta}}{\tan\theta}$ (iii) $\frac{1}{\sqrt{1+\tan^2\theta}}$ (iv) $\frac{1}{\sqrt{1+\tan^2\theta}}$ (v) $\frac{\tan\theta}{\sqrt{1+\tan^2\theta}}$

19. Express $\cot\theta$ in terms of $\sec\theta$

(i) $\frac{1}{\sqrt{\sec^2\theta-1}}$ (ii) $\frac{1}{\sqrt{\sec^2\theta-1}}$ (iii) $\frac{1}{\sec\theta}$ (iv) $\frac{\sec\theta}{\sqrt{\sec^2\theta-1}}$ (v) $\frac{\sqrt{\sec^2\theta-1}}{\sec\theta}$

20. Express $\cot\theta$ in terms of $\operatorname{cosec}\theta$

(i) $\frac{\operatorname{cosec}\theta}{\sqrt{\operatorname{cosec}^2\theta-1}}$ (ii) $\frac{1}{\sqrt{\operatorname{cosec}^2\theta-1}}$ (iii) $\frac{\sqrt{\operatorname{cosec}^2\theta-1}}{\operatorname{cosec}\theta}$ (iv) $\frac{1}{\operatorname{cosec}\theta}$ (v) $\frac{1}{\sqrt{\operatorname{cosec}^2\theta-1}}$

21. Express $\sec\theta$ in terms of $\sin\theta$

(i) $\frac{1}{\sqrt{1-\sin^2\theta}}$ (ii) $\frac{1}{\sqrt{1-\sin^2\theta}}$ (iii) $\frac{\sin\theta}{\sqrt{1-\sin^2\theta}}$ (iv) $\frac{\sqrt{1-\sin^2\theta}}{\sin\theta}$ (v) $\frac{1}{\sin\theta}$

22. Express $\sec\theta$ in terms of $\cos\theta$

(i) $\frac{\cos\theta}{\sqrt{1-\cos^2\theta}}$ (ii) $\frac{1}{\sqrt{1-\cos^2\theta}}$ (iii) $\frac{1}{\sqrt{1-\cos^2\theta}}$ (iv) $\frac{\sqrt{1-\cos^2\theta}}{\cos\theta}$ (v) $\frac{1}{\cos\theta}$

23. Express $\sec\theta$ in terms of $\tan\theta$

(i) $\frac{1}{\tan\theta}$ (ii) $\frac{\sqrt{1+\tan^2\theta}}{\tan\theta}$ (iii) $\frac{\tan\theta}{\sqrt{1+\tan^2\theta}}$ (iv) $\frac{1}{\sqrt{1+\tan^2\theta}}$ (v) $\frac{1}{\sqrt{1+\tan^2\theta}}$

24. Express $\sec\theta$ in terms of $\cot\theta$

(i) $\frac{1}{\sqrt{1+\cot^2\theta}}$ (ii) $\frac{\cot\theta}{\sqrt{1+\cot^2\theta}}$ (iii) $\frac{1}{\sqrt{1+\cot^2\theta}}$ (iv) $\frac{1}{\cot\theta}$ (v) $\frac{\sqrt{1+\cot^2\theta}}{\cot\theta}$

25. Express $\sec\theta$ in terms of $\operatorname{cosec}\theta$

(i) $\frac{1}{\operatorname{cosec}\theta}$ (ii) $\frac{1}{\sqrt{\operatorname{cosec}^2\theta-1}}$ (iii) $\frac{1}{\sqrt{\operatorname{cosec}^2\theta-1}}$ (iv) $\frac{\operatorname{cosec}\theta}{\sqrt{\operatorname{cosec}^2\theta-1}}$ (v) $\frac{\sqrt{\operatorname{cosec}^2\theta-1}}{\operatorname{cosec}\theta}$

26. Express cosec θ in terms of sin θ

$$(i) \frac{1}{\sqrt{1 - \sin^2 \theta}} \quad (ii) \frac{1}{\sin \theta} \quad (iii) \frac{1}{\sqrt{1 - \sin^2 \theta}} \quad (iv) \frac{\sin \theta}{\sqrt{1 - \sin^2 \theta}} \quad (v) \frac{\sqrt{1 - \sin^2 \theta}}{\sin \theta}$$

27. Express cosec θ in terms of cos θ

$$(i) \frac{1}{\sqrt{1 - \cos^2 \theta}} \quad (ii) \frac{1}{\sqrt{1 - \cos^2 \theta}} \quad (iii) \frac{\sqrt{1 - \cos^2 \theta}}{\cos \theta} \quad (iv) \frac{\cos \theta}{\sqrt{1 - \cos^2 \theta}} \quad (v) \frac{1}{\cos \theta}$$

28. Express cosec θ in terms of tan θ

$$(i) \frac{1}{\sqrt{1 + \tan^2 \theta}} \quad (ii) \frac{1}{\sqrt{1 + \tan^2 \theta}} \quad (iii) \frac{\sqrt{1 + \tan^2 \theta}}{\tan \theta} \quad (iv) \frac{1}{\tan \theta} \quad (v) \frac{\tan \theta}{\sqrt{1 + \tan^2 \theta}}$$

29. Express cosec θ in terms of cot θ

$$(i) \frac{\sqrt{1 + \cot^2 \theta}}{\cot \theta} \quad (ii) \frac{1}{\cot \theta} \quad (iii) \frac{1}{\sqrt{1 + \cot^2 \theta}} \quad (iv) \frac{\cot \theta}{\sqrt{1 + \cot^2 \theta}} \quad (v) \frac{1}{\sqrt{1 + \cot^2 \theta}}$$

30. Express cosec θ in terms of sec θ

$$(i) \frac{1}{\sec \theta} \quad (ii) \frac{\sec \theta}{\sqrt{\sec^2 \theta - 1}} \quad (iii) \frac{1}{\sqrt{\sec^2 \theta - 1}} \quad (iv) \frac{1}{\sqrt{\sec^2 \theta - 1}} \quad (v) \frac{\sqrt{\sec^2 \theta - 1}}{\sec \theta}$$

31. Express sin 50° in terms of cos 50°

$$(i) \frac{\sqrt{1 - \cos^2 50^\circ}}{\cos 50^\circ} \quad (ii) \frac{1}{\sqrt{1 - \cos^2 50^\circ}} \quad (iii) \frac{\cos 50^\circ}{\sqrt{1 - \cos^2 50^\circ}} \quad (iv) \frac{1}{\cos 50^\circ} \quad (v) \frac{1}{\sqrt{1 - \cos^2 50^\circ}}$$

32. Express sin 77° in terms of tan 77°

$$(i) \frac{1}{\sqrt{1 + \tan^2 77^\circ}} \quad (ii) \frac{1}{\sqrt{1 + \tan^2 77^\circ}} \quad (iii) \frac{1}{\tan 77^\circ} \quad (iv) \frac{\tan 77^\circ}{\sqrt{1 + \tan^2 77^\circ}} \quad (v) \frac{\sqrt{1 + \tan^2 77^\circ}}{\tan 77^\circ}$$

33. Express sin 33° in terms of cot 33°

$$(i) \frac{1}{\sqrt{1 + \cot^2 33^\circ}} \quad (ii) \frac{1}{\cot 33^\circ} \quad (iii) \frac{\sqrt{1 + \cot^2 33^\circ}}{\cot 33^\circ} \quad (iv) \frac{\cot 33^\circ}{\sqrt{1 + \cot^2 33^\circ}} \quad (v) \frac{1}{\sqrt{1 + \cot^2 33^\circ}}$$

34. Express sin 36° in terms of sec 36°

$$(i) \frac{\sec 36^\circ}{\sqrt{\sec^2 36^\circ - 1}} \quad (ii) \frac{1}{\sqrt{\sec^2 36^\circ - 1}} \quad (iii) \frac{\sqrt{\sec^2 36^\circ - 1}}{\sec 36^\circ} \quad (iv) \frac{1}{\sqrt{\sec^2 36^\circ - 1}} \quad (v) \frac{1}{\sec 36^\circ}$$

35. Express $\sin 22^\circ$ in terms of $\operatorname{cosec} 22^\circ$

$$(i) \frac{\operatorname{cosec} 22^\circ}{\sqrt{\operatorname{cosec}^2 22^\circ - 1}} \quad (ii) \frac{1}{\sqrt{\operatorname{cosec}^2 22^\circ - 1}} \quad (iii) \frac{1}{\operatorname{cosec} 22^\circ} \quad (iv) \frac{\sqrt{\operatorname{cosec}^2 22^\circ - 1}}{\operatorname{cosec} 22^\circ} \quad (v) \frac{1}{\sqrt{\operatorname{cosec}^2 22^\circ - 1}}$$

36. Express $\cos 62^\circ$ in terms of $\sin 62^\circ$

$$(i) \frac{1}{\sqrt{1 - \sin^2 62^\circ}} \quad (ii) \frac{\sqrt{1 - \sin^2 62^\circ}}{\sin 62^\circ} \quad (iii) \frac{1}{\sin 62^\circ} \quad (iv) \sqrt{1 - \sin^2 62^\circ} \quad (v) \frac{\sin 62^\circ}{\sqrt{1 - \sin^2 62^\circ}}$$

37. Express $\cos 39^\circ$ in terms of $\tan 39^\circ$

$$(i) \frac{\tan 39^\circ}{\sqrt{1 + \tan^2 39^\circ}} \quad (ii) \frac{1}{\sqrt{1 + \tan^2 39^\circ}} \quad (iii) \frac{1}{\tan 39^\circ} \quad (iv) \frac{\sqrt{1 + \tan^2 39^\circ}}{\tan 39^\circ} \quad (v) \frac{1}{\sqrt{1 + \tan^2 39^\circ}}$$

38. Express $\cos 71^\circ$ in terms of $\cot 71^\circ$

$$(i) \frac{1}{\sqrt{1 + \cot^2 71^\circ}} \quad (ii) \frac{\cot 71^\circ}{\sqrt{1 + \cot^2 71^\circ}} \quad (iii) \frac{1}{\cot 71^\circ} \quad (iv) \frac{\sqrt{1 + \cot^2 71^\circ}}{\cot 71^\circ} \quad (v) \frac{1}{\sqrt{1 + \cot^2 71^\circ}}$$

39. Express $\cos 69^\circ$ in terms of $\sec 69^\circ$

$$(i) \frac{\sec 69^\circ}{\sqrt{\sec^2 69^\circ - 1}} \quad (ii) \frac{1}{\sec 69^\circ} \quad (iii) \frac{1}{\sqrt{\sec^2 69^\circ - 1}} \quad (iv) \frac{\sqrt{\sec^2 69^\circ - 1}}{\sec 69^\circ} \quad (v) \frac{1}{\sqrt{\sec^2 69^\circ - 1}}$$

40. Express $\cos 24^\circ$ in terms of $\operatorname{cosec} 24^\circ$

$$(i) \frac{\operatorname{cosec} 24^\circ}{\sqrt{\operatorname{cosec}^2 24^\circ - 1}} \quad (ii) \frac{\sqrt{\operatorname{cosec}^2 24^\circ - 1}}{\operatorname{cosec} 24^\circ} \quad (iii) \frac{1}{\operatorname{cosec} 24^\circ} \quad (iv) \sqrt{\operatorname{cosec}^2 24^\circ - 1} \quad (v) \frac{1}{\sqrt{\operatorname{cosec}^2 24^\circ - 1}}$$

41. Express $\tan 39^\circ$ in terms of $\sin 39^\circ$

$$(i) \frac{1}{\sqrt{1 - \sin^2 39^\circ}} \quad (ii) \frac{1}{\sin 39^\circ} \quad (iii) \sqrt{1 - \sin^2 39^\circ} \quad (iv) \frac{\sin 39^\circ}{\sqrt{1 - \sin^2 39^\circ}} \quad (v) \frac{\sqrt{1 - \sin^2 39^\circ}}{\sin 39^\circ}$$

42. Express $\tan 31^\circ$ in terms of $\cos 31^\circ$

$$(i) \frac{\sqrt{1 - \cos^2 31^\circ}}{\cos 31^\circ} \quad (ii) \frac{1}{\cos 31^\circ} \quad (iii) \frac{1}{\sqrt{1 - \cos^2 31^\circ}} \quad (iv) \frac{\cos 31^\circ}{\sqrt{1 - \cos^2 31^\circ}} \quad (v) \frac{1}{\sqrt{1 - \cos^2 31^\circ}}$$

43. Express $\tan 50^\circ$ in terms of $\cot 50^\circ$

$$(i) \frac{1}{\sqrt{1 + \cot^2 50^\circ}} \quad (ii) \frac{\sqrt{1 + \cot^2 50^\circ}}{\cot 50^\circ} \quad (iii) \frac{1}{\cot 50^\circ} \quad (iv) \sqrt{1 + \cot^2 50^\circ} \quad (v) \frac{\cot 50^\circ}{\sqrt{1 + \cot^2 50^\circ}}$$

44. Express $\tan 72^\circ$ in terms of $\sec 72^\circ$

$$(i) \frac{\sqrt{\sec^2 72^\circ - 1}}{\sec 72^\circ} \quad (ii) \frac{\sqrt{\sec^2 72^\circ - 1}}{\sec 72^\circ} \quad (iii) \frac{\sec 72^\circ}{\sqrt{\sec^2 72^\circ - 1}} \quad (iv) \frac{1}{\sec 72^\circ} \quad (v) \frac{1}{\sqrt{\sec^2 72^\circ - 1}}$$

45. Express $\tan 43^\circ$ in terms of $\operatorname{cosec} 43^\circ$

$$(i) \frac{\sqrt{\operatorname{cosec}^2 43^\circ - 1}}{\operatorname{cosec} 43^\circ} \quad (ii) \frac{\operatorname{cosec} 43^\circ}{\sqrt{\operatorname{cosec}^2 43^\circ - 1}} \quad (iii) \frac{1}{\operatorname{cosec} 43^\circ} \quad (iv) \frac{1}{\sqrt{\operatorname{cosec}^2 43^\circ - 1}} \quad (v) \frac{1}{\sqrt{\operatorname{cosec}^2 43^\circ - 1}}$$

46. Express $\cot 51^\circ$ in terms of $\sin 51^\circ$

$$(i) \frac{1}{\sqrt{1 - \sin^2 51^\circ}} \quad (ii) \frac{\sin 51^\circ}{\sqrt{1 - \sin^2 51^\circ}} \quad (iii) \frac{1}{\sqrt{1 - \sin^2 51^\circ}} \quad (iv) \frac{1}{\sin 51^\circ} \quad (v) \frac{\sqrt{1 - \sin^2 51^\circ}}{\sin 51^\circ}$$

47. Express $\cot 59^\circ$ in terms of $\cos 59^\circ$

$$(i) \frac{1}{\cos 59^\circ} \quad (ii) \frac{\cos 59^\circ}{\sqrt{1 - \cos^2 59^\circ}} \quad (iii) \frac{1}{\sqrt{1 - \cos^2 59^\circ}} \quad (iv) \frac{\sqrt{1 - \cos^2 59^\circ}}{\cos 59^\circ} \quad (v) \frac{1}{\sqrt{1 - \cos^2 59^\circ}}$$

48. Express $\cot 20^\circ$ in terms of $\tan 20^\circ$

$$(i) \frac{1}{\sqrt{1 + \tan^2 20^\circ}} \quad (ii) \frac{1}{\tan 20^\circ} \quad (iii) \frac{\sqrt{1 + \tan^2 20^\circ}}{\tan 20^\circ} \quad (iv) \frac{1}{\sqrt{1 + \tan^2 20^\circ}} \quad (v) \frac{\tan 20^\circ}{\sqrt{1 + \tan^2 20^\circ}}$$

49. Express $\cot 70^\circ$ in terms of $\sec 70^\circ$

$$(i) \frac{1}{\sqrt{\sec^2 70^\circ - 1}} \quad (ii) \frac{1}{\sqrt{\sec^2 70^\circ - 1}} \quad (iii) \frac{\sec 70^\circ}{\sqrt{\sec^2 70^\circ - 1}} \quad (iv) \frac{\sqrt{\sec^2 70^\circ - 1}}{\sec 70^\circ} \quad (v) \frac{1}{\sec 70^\circ}$$

50. Express $\cot 46^\circ$ in terms of $\operatorname{cosec} 46^\circ$

$$(i) \frac{\sqrt{\operatorname{cosec}^2 46^\circ - 1}}{\operatorname{cosec} 46^\circ} \quad (ii) \frac{\operatorname{cosec} 46^\circ}{\sqrt{\operatorname{cosec}^2 46^\circ - 1}} \quad (iii) \frac{1}{\sqrt{\operatorname{cosec}^2 46^\circ - 1}} \quad (iv) \frac{1}{\sqrt{\operatorname{cosec}^2 46^\circ - 1}} \quad (v) \frac{1}{\operatorname{cosec} 46^\circ}$$

51. Express $\sec 51^\circ$ in terms of $\sin 51^\circ$

$$(i) \frac{\sin 51^\circ}{\sqrt{1 - \sin^2 51^\circ}} \quad (ii) \frac{1}{\sqrt{1 - \sin^2 51^\circ}} \quad (iii) \frac{1}{\sqrt{1 - \sin^2 51^\circ}} \quad (iv) \frac{1}{\sin 51^\circ} \quad (v) \frac{\sqrt{1 - \sin^2 51^\circ}}{\sin 51^\circ}$$

52. Express $\sec 42^\circ$ in terms of $\cos 42^\circ$

$$(i) \frac{\cos 42^\circ}{\sqrt{1 - \cos^2 42^\circ}} \quad (ii) \frac{1}{\cos 42^\circ} \quad (iii) \frac{1}{\sqrt{1 - \cos^2 42^\circ}} \quad (iv) \frac{\sqrt{1 - \cos^2 42^\circ}}{\cos 42^\circ} \quad (v) \frac{1}{\sqrt{1 - \cos^2 42^\circ}}$$

53. Express $\sec 67^\circ$ in terms of $\tan 67^\circ$

$$(i) \frac{1}{\sqrt{1 + \tan^2 67^\circ}} \quad (ii) \frac{\tan 67^\circ}{\sqrt{1 + \tan^2 67^\circ}} \quad (iii) \frac{1}{\sqrt{1 + \tan^2 67^\circ}} \quad (iv) \frac{1}{\tan 67^\circ} \quad (v) \frac{\sqrt{1 + \tan^2 67^\circ}}{\tan 67^\circ}$$

54. Express $\sec 66^\circ$ in terms of $\cot 66^\circ$

$$(i) \frac{\sqrt{1 + \cot^2 66^\circ}}{\cot 66^\circ} \quad (ii) \frac{\cot 66^\circ}{\sqrt{1 + \cot^2 66^\circ}} \quad (iii) \frac{1}{\sqrt{1 + \cot^2 66^\circ}} \quad (iv) \frac{1}{\cot 66^\circ} \quad (v) \frac{1}{\sqrt{1 + \cot^2 66^\circ}}$$

55. Express $\sec 25^\circ$ in terms of $\operatorname{cosec} 25^\circ$

$$(i) \frac{\sqrt{\operatorname{cosec}^2 25^\circ - 1}}{\operatorname{cosec} 25^\circ} \quad (ii) \frac{1}{\sqrt{\operatorname{cosec}^2 25^\circ - 1}} \quad (iii) \frac{1}{\sqrt{\operatorname{cosec}^2 25^\circ - 1}} \quad (iv) \frac{1}{\operatorname{cosec} 25^\circ} \quad (v) \frac{\operatorname{cosec} 25^\circ}{\sqrt{\operatorname{cosec}^2 25^\circ - 1}}$$

56. Express $\operatorname{cosec} 47^\circ$ in terms of $\sin 47^\circ$

$$(i) \frac{1}{\sin 47^\circ} \quad (ii) \frac{\sin 47^\circ}{\sqrt{1 - \sin^2 47^\circ}} \quad (iii) \frac{\sqrt{1 - \sin^2 47^\circ}}{\sin 47^\circ} \quad (iv) \frac{1}{\sqrt{1 - \sin^2 47^\circ}} \quad (v) \frac{1}{\sqrt{1 - \sin^2 47^\circ}}$$

57. Express $\operatorname{cosec} 71^\circ$ in terms of $\cos 71^\circ$

$$(i) \frac{1}{\cos 71^\circ} \quad (ii) \frac{\sqrt{1 - \cos^2 71^\circ}}{\cos 71^\circ} \quad (iii) \frac{\cos 71^\circ}{\sqrt{1 - \cos^2 71^\circ}} \quad (iv) \frac{1}{\sqrt{1 - \cos^2 71^\circ}} \quad (v) \frac{1}{\sqrt{1 - \cos^2 71^\circ}}$$

58. Express $\operatorname{cosec} 38^\circ$ in terms of $\tan 38^\circ$

$$(i) \frac{1}{\tan 38^\circ} \quad (ii) \frac{1}{\sqrt{1 + \tan^2 38^\circ}} \quad (iii) \frac{\sqrt{1 + \tan^2 38^\circ}}{\tan 38^\circ} \quad (iv) \frac{1}{\sqrt{1 + \tan^2 38^\circ}} \quad (v) \frac{\tan 38^\circ}{\sqrt{1 + \tan^2 38^\circ}}$$

59. Express $\operatorname{cosec} 22^\circ$ in terms of $\cot 22^\circ$

$$(i) \frac{1}{\sqrt{1 + \cot^2 22^\circ}} \quad (ii) \frac{1}{\sqrt{1 + \cot^2 22^\circ}} \quad (iii) \frac{1}{\cot 22^\circ} \quad (iv) \frac{\cot 22^\circ}{\sqrt{1 + \cot^2 22^\circ}} \quad (v) \frac{\sqrt{1 + \cot^2 22^\circ}}{\cot 22^\circ}$$

60. Express $\operatorname{cosec} 71^\circ$ in terms of $\sec 71^\circ$

$$(i) \frac{1}{\sec 71^\circ} \quad (ii) \frac{\sec 71^\circ}{\sqrt{\sec^2 71^\circ - 1}} \quad (iii) \frac{1}{\sqrt{\sec^2 71^\circ - 1}} \quad (iv) \frac{\sqrt{\sec^2 71^\circ - 1}}{\sec 71^\circ} \quad (v) \frac{1}{\sqrt{\sec^2 71^\circ - 1}}$$

Assignment Key

1) (i)	2) (ii)	3) (v)	4) (i)	5) (iv)	6) (v)
7) (v)	8) (iv)	9) (ii)	10) (v)	11) (v)	12) (ii)
13) (v)	14) (iv)	15) (v)	16) (i)	17) (i)	18) (i)
19) (i)	20) (ii)	21) (ii)	22) (v)	23) (iv)	24) (v)
25) (iv)	26) (ii)	27) (i)	28) (iii)	29) (v)	30) (ii)
31) (v)	32) (iv)	33) (v)	34) (iii)	35) (iii)	36) (iv)
37) (v)	38) (ii)	39) (ii)	40) (ii)	41) (iv)	42) (i)
43) (iii)	44) (i)	45) (v)	46) (v)	47) (ii)	48) (ii)
49) (ii)	50) (iii)	51) (iii)	52) (ii)	53) (iii)	54) (i)
55) (v)	56) (i)	57) (iv)	58) (iii)	59) (ii)	60) (ii)