



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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 $\cos \theta$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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) $\frac{1}{\cos \theta}$ (v) $\frac{\sqrt{1 - \cos^2 \theta}}{\cos \theta}$

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

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

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

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

26. Express cosec θ in terms of $\sin \theta$

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

27. Express cosec θ in terms of $\cos \theta$

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

28. Express cosec θ in terms of $\tan \theta$

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

29. Express cosec θ in terms of $\cot \theta$

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

30. Express cosec θ in terms of $\sec \theta$

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

31. Express $\sin 78^\circ$ in terms of $\cos 78^\circ$

$$(i) \sqrt{1 - \cos^2 78^\circ} \quad (ii) \frac{1}{\sqrt{1 - \cos^2 78^\circ}} \quad (iii) \frac{\sqrt{1 - \cos^2 78^\circ}}{\cos 78^\circ} \quad (iv) \frac{1}{\cos 78^\circ} \quad (v) \frac{\cos 78^\circ}{\sqrt{1 - \cos^2 78^\circ}}$$

32. Express $\sin 77^\circ$ in terms of $\tan 77^\circ$

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

33. Express $\sin 52^\circ$ in terms of $\cot 52^\circ$

$$(i) \frac{1}{\cot 52^\circ} \quad (ii) \frac{1}{\sqrt{1 + \cot^2 52^\circ}} \quad (iii) \sqrt{1 + \cot^2 52^\circ} \quad (iv) \frac{\sqrt{1 + \cot^2 52^\circ}}{\cot 52^\circ} \quad (v) \frac{\cot 52^\circ}{\sqrt{1 + \cot^2 52^\circ}}$$

34. Express $\sin 41^\circ$ in terms of $\sec 41^\circ$

$$(i) \frac{\sec 41^\circ}{\sqrt{\sec^2 41^\circ - 1}} \quad (ii) \frac{\sqrt{\sec^2 41^\circ - 1}}{\sec 41^\circ} \quad (iii) \frac{1}{\sqrt{\sec^2 41^\circ - 1}} \quad (iv) \sqrt{\sec^2 41^\circ - 1} \quad (v) \frac{1}{\sec 41^\circ}$$

35. Express $\sin 49^\circ$ in terms of $\operatorname{cosec} 49^\circ$

$$(i) \frac{1}{\sqrt{\operatorname{cosec}^2 49^\circ - 1}} \quad (ii) \frac{\operatorname{cosec} 49^\circ}{\sqrt{\operatorname{cosec}^2 49^\circ - 1}} \quad (iii) \frac{\sqrt{\operatorname{cosec}^2 49^\circ - 1}}{\operatorname{cosec} 49^\circ} \quad (iv) \frac{1}{\sqrt{\operatorname{cosec}^2 49^\circ - 1}} \quad (v) \frac{1}{\operatorname{cosec} 49^\circ}$$

36. Express $\cos 35^\circ$ in terms of $\sin 35^\circ$

$$(i) \frac{\sin 35^\circ}{\sqrt{1 - \sin^2 35^\circ}} \quad (ii) \frac{1}{\sqrt{1 - \sin^2 35^\circ}} \quad (iii) \frac{\sqrt{1 - \sin^2 35^\circ}}{\sin 35^\circ} \quad (iv) \frac{1}{\sqrt{1 - \sin^2 35^\circ}} \quad (v) \frac{1}{\sin 35^\circ}$$

37. Express $\cos 69^\circ$ in terms of $\tan 69^\circ$

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

38. Express $\cos 70^\circ$ in terms of $\cot 70^\circ$

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

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

$$(i) \frac{\sec 52^\circ}{\sqrt{\sec^2 52^\circ - 1}} \quad (ii) \frac{1}{\sqrt{\sec^2 52^\circ - 1}} \quad (iii) \frac{1}{\sqrt{\sec^2 52^\circ - 1}} \quad (iv) \frac{\sqrt{\sec^2 52^\circ - 1}}{\sec 52^\circ} \quad (v) \frac{1}{\sec 52^\circ}$$

40. Express $\cos 42^\circ$ in terms of $\operatorname{cosec} 42^\circ$

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

41. Express $\tan 40^\circ$ in terms of $\sin 40^\circ$

$$(i) \frac{1}{\sqrt{1 - \sin^2 40^\circ}} \quad (ii) \frac{1}{\sqrt{1 - \sin^2 40^\circ}} \quad (iii) \frac{1}{\sin 40^\circ} \quad (iv) \frac{\sqrt{1 - \sin^2 40^\circ}}{\sin 40^\circ} \quad (v) \frac{\sin 40^\circ}{\sqrt{1 - \sin^2 40^\circ}}$$

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

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

43. Express $\tan 70^\circ$ in terms of $\cot 70^\circ$

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

44. Express $\tan 35^\circ$ in terms of $\sec 35^\circ$

$$(i) \frac{1}{\sqrt{\sec^2 35^\circ - 1}} \quad (ii) \frac{\sqrt{\sec^2 35^\circ - 1}}{\sec 35^\circ} \quad (iii) \frac{1}{\sqrt{\sec^2 35^\circ - 1}} \quad (iv) \frac{1}{\sec 35^\circ} \quad (v) \frac{\sec 35^\circ}{\sqrt{\sec^2 35^\circ - 1}}$$

45. Express $\tan 56^\circ$ in terms of $\operatorname{cosec} 56^\circ$

$$(i) \frac{1}{\sqrt{\operatorname{cosec}^2 56^\circ - 1}} \quad (ii) \frac{1}{\operatorname{cosec} 56^\circ} \quad (iii) \frac{\sqrt{\operatorname{cosec}^2 56^\circ - 1}}{\operatorname{cosec} 56^\circ} \quad (iv) \frac{1}{\sqrt{\operatorname{cosec}^2 56^\circ - 1}} \quad (v) \frac{\operatorname{cosec} 56^\circ}{\sqrt{\operatorname{cosec}^2 56^\circ - 1}}$$

46. Express $\cot 43^\circ$ in terms of $\sin 43^\circ$

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

47. Express $\cot 51^\circ$ in terms of $\cos 51^\circ$

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

48. Express $\cot 57^\circ$ in terms of $\tan 57^\circ$

$$(i) \frac{1}{\sqrt{1 + \tan^2 57^\circ}} \quad (ii) \frac{\sqrt{1 + \tan^2 57^\circ}}{\tan 57^\circ} \quad (iii) \frac{1}{\sqrt{1 + \tan^2 57^\circ}} \quad (iv) \frac{\tan 57^\circ}{\sqrt{1 + \tan^2 57^\circ}} \quad (v) \frac{1}{\tan 57^\circ}$$

49. Express $\cot 77^\circ$ in terms of $\sec 77^\circ$

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

50. Express $\cot 26^\circ$ in terms of $\operatorname{cosec} 26^\circ$

$$(i) \frac{1}{\sqrt{\operatorname{cosec}^2 26^\circ - 1}} \quad (ii) \frac{1}{\operatorname{cosec} 26^\circ} \quad (iii) \frac{\sqrt{\operatorname{cosec}^2 26^\circ - 1}}{\operatorname{cosec} 26^\circ} \quad (iv) \frac{\operatorname{cosec} 26^\circ}{\sqrt{\operatorname{cosec}^2 26^\circ - 1}} \quad (v) \frac{1}{\sqrt{\operatorname{cosec}^2 26^\circ - 1}}$$

51. Express $\sec 30^\circ$ in terms of $\sin 30^\circ$

$$(i) \frac{1}{\sin 30^\circ} \quad (ii) \frac{1}{\sqrt{1 - \sin^2 30^\circ}} \quad (iii) \frac{\sin 30^\circ}{\sqrt{1 - \sin^2 30^\circ}} \quad (iv) \frac{\sqrt{1 - \sin^2 30^\circ}}{\sin 30^\circ} \quad (v) \frac{1}{\sqrt{1 - \sin^2 30^\circ}}$$

52. Express $\sec 48^\circ$ in terms of $\cos 48^\circ$

$$(i) \frac{1}{\sqrt{1 - \cos^2 48^\circ}} \quad (ii) \frac{1}{\sqrt{1 - \cos^2 48^\circ}} \quad (iii) \frac{\sqrt{1 - \cos^2 48^\circ}}{\cos 48^\circ} \quad (iv) \frac{1}{\cos 48^\circ} \quad (v) \frac{\cos 48^\circ}{\sqrt{1 - \cos^2 48^\circ}}$$

53. Express $\sec 21^\circ$ in terms of $\tan 21^\circ$

$$(i) \frac{\tan 21^\circ}{\sqrt{1 + \tan^2 21^\circ}} \quad (ii) \frac{\sqrt{1 + \tan^2 21^\circ}}{\tan 21^\circ} \quad (iii) \frac{1}{\tan 21^\circ} \quad (iv) \frac{1}{\sqrt{1 + \tan^2 21^\circ}} \quad (v) \frac{1}{\sqrt{1 + \tan^2 21^\circ}}$$

54. Express $\sec 27^\circ$ in terms of $\cot 27^\circ$

$$(i) \frac{\sqrt{1 + \cot^2 27^\circ}}{\cot 27^\circ} \quad (ii) \frac{\cot 27^\circ}{\sqrt{1 + \cot^2 27^\circ}} \quad (iii) \frac{1}{\sqrt{1 + \cot^2 27^\circ}} \quad (iv) \frac{1}{\sqrt{1 + \cot^2 27^\circ}} \quad (v) \frac{1}{\cot 27^\circ}$$

55. Express $\sec 50^\circ$ in terms of $\operatorname{cosec} 50^\circ$

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

56. Express $\operatorname{cosec} 20^\circ$ in terms of $\sin 20^\circ$

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

57. Express $\operatorname{cosec} 20^\circ$ in terms of $\cos 20^\circ$

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

58. Express $\operatorname{cosec} 36^\circ$ in terms of $\tan 36^\circ$

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

59. Express $\operatorname{cosec} 49^\circ$ in terms of $\cot 49^\circ$

$$(i) \frac{1}{\sqrt{1 + \cot^2 49^\circ}} \quad (ii) \frac{\cot 49^\circ}{\sqrt{1 + \cot^2 49^\circ}} \quad (iii) \frac{\sqrt{1 + \cot^2 49^\circ}}{\cot 49^\circ} \quad (iv) \frac{1}{\sqrt{1 + \cot^2 49^\circ}} \quad (v) \frac{1}{\cot 49^\circ}$$

60. Express $\operatorname{cosec} 61^\circ$ in terms of $\sec 61^\circ$

$$(i) \frac{1}{\sqrt{\sec^2 61^\circ - 1}} \quad (ii) \frac{1}{\sqrt{\sec^2 61^\circ - 1}} \quad (iii) \frac{\sqrt{\sec^2 61^\circ - 1}}{\sec 61^\circ} \quad (iv) \frac{\sec 61^\circ}{\sqrt{\sec^2 61^\circ - 1}} \quad (v) \frac{1}{\sec 61^\circ}$$

Assignment Key

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