EduSahara™ Learning Center Assignment

Grade : Class X, ICSE
Chapter : Trigonometrical Identities
Name : Trigonometric ratios in terms of other ratios

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

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

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

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

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

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

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

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

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

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

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

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

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

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

θ $\sqrt{\quad}$ $2\theta - 1$ θ

(iv) $\sqrt{\text{cosec}^2\theta - 1}$ (v) $\dfrac{\text{cosec}\,\theta}{\sqrt{\text{cosec}^2\theta - 1}}$

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

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

(iv) $\dfrac{\sqrt{1 - \sin^2\theta}}{\sin\theta}$ (v) $\sqrt{1 - \sin^2\theta}$

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

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

(iv) $\sqrt{1 + \tan^2\theta}$ (v) $\dfrac{\sqrt{1 + \tan^2\theta}}{\tan\theta}$

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

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

(iv) $\dfrac{\cot\theta}{\sqrt{1 + \cot^2\theta}}$ (v) $\dfrac{1}{\cot\theta}$

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

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

(iv) $\dfrac{\sqrt{\sec^2\theta - 1}}{\sec\theta}$ (v) $\dfrac{1}{\sec\theta}$

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

(i) $\sqrt{\text{cosec}^2\theta - 1}$ (ii) $\dfrac{1}{\text{cosec}}$ (iii) $\dfrac{\sqrt{\text{cosec}^2\theta - 1}}{\text{cosec}}$

θ θ

(iv) $\frac{1}{\sqrt{\text{cosec}^2\theta - 1}}$ (v) $\frac{\text{cosec}\,\theta}{\sqrt{\text{cosec}^2\theta - 1}}$

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

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

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

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

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

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

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

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

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

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

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

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

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

(i) $\frac{1}{\text{cosec}}$ (ii) $\sqrt{\text{cosec}^2\theta - 1}$ (iii) $\frac{\text{cosec}\,\theta}{\text{cosec}}$

θ $\sqrt{\quad}$ $2\theta - 1$

(iv) $\dfrac{1}{\sqrt{\operatorname{cosec}^2\theta - 1}}$ (v) $\dfrac{\sqrt{\operatorname{cosec}^2\theta - 1}}{\operatorname{cosec}\theta}$

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

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

(iv) $\dfrac{\sqrt{1 - \sin^2\theta}}{\sin\theta}$ (v) $\sqrt{1 - \sin^2\theta}$

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

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

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

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

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

(iv) $\dfrac{\tan\theta}{\sqrt{1 + \tan^2\theta}}$ (v) $\sqrt{1 + \tan^2\theta}$

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

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

(iv) $\dfrac{1}{\sec\theta}$ (v) $\dfrac{1}{\sqrt{\sec^2\theta - 1}}$

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

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

θ $\sqrt{\quad}$ $2\theta - 1$

(iv) $\dfrac{\operatorname{cosec}\theta}{\sqrt{\operatorname{cosec}^2\theta - 1}}$ (v) $\dfrac{\sqrt{\operatorname{cosec}^2\theta - 1}}{\operatorname{cosec}\theta}$

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

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

(iv) $\dfrac{1}{\sin\theta}$ (v) $\dfrac{1}{\sqrt{1 - \sin^2\theta}}$

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

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

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

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

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

(iv) $\dfrac{\sqrt{1 + \tan^2\theta}}{\tan\theta}$ (v) $\dfrac{1}{\sqrt{1 + \tan^2\theta}}$

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

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

(iv) $\dfrac{1}{\sqrt{1 + \cot^2\theta}}$ (v) $\dfrac{\sqrt{1 + \cot^2\theta}}{\cot\theta}$

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

(i) $\dfrac{\operatorname{cosec}\theta}{\operatorname{cosec}}$ (ii) $\dfrac{1}{\operatorname{cosec}}$ (iii) $\dfrac{1}{\operatorname{cosec}}$

$\sqrt{\quad 2\theta - 1}$ θ $\sqrt{\quad 2\theta - 1}$

(iv) $\sqrt{\text{cosec}^2\theta - 1}$ (v) $\dfrac{\sqrt{\text{cosec}^2\theta - 1}}{\text{cosec}\,\theta}$

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26. Express $\text{cosec}\,\theta$ in terms of $\sin\theta$

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

(iv) $\sqrt{1 - \sin^2\theta}$ (v) $\dfrac{1}{\sqrt{1 - \sin^2\theta}}$

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27. Express $\text{cosec}\,\theta$ in terms of $\cos\theta$

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

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

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28. Express $\text{cosec}\,\theta$ in terms of $\tan\theta$

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

(iv) $\dfrac{1}{\sqrt{1 + \tan^2\theta}}$ (v) $\sqrt{1 + \tan^2\theta}$

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29. Express $\text{cosec}\,\theta$ in terms of $\cot\theta$

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

(iv) $\dfrac{\sqrt{1 + \cot^2\theta}}{\cot\theta}$ (v) $\sqrt{1 + \cot^2\theta}$

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30. Express $\text{cosec}\,\theta$ in terms of $\sec\theta$

(i) $\dfrac{1}{\text{sec}}$ (ii) $\dfrac{\sec\theta}{\text{sec}}$ (iii) $\sqrt{\sec^2\theta - 1}$

θ $\sqrt{\quad}$ $2\theta - 1$

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

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31. Express $\sin 76°$ in terms of $\cos 76°$

(i) $\sqrt{1 - \cos^2 76°}$ (ii) $\frac{\cos 76°}{\sqrt{1 - \cos^2 76°}}$ (iii) $\frac{1}{\cos 76°}$

(iv) $\frac{\sqrt{1 - \cos^2 76°}}{\cos 76°}$ (v) $\frac{1}{\sqrt{1 - \cos^2 76°}}$

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32. Express $\sin 53°$ in terms of $\tan 53°$

(i) $\frac{\tan 53°}{\sqrt{1 + \tan^2 53°}}$ (ii) $\frac{1}{\tan 53°}$ (iii) $\sqrt{1 + \tan^2 53°}$

(iv) $\frac{\sqrt{1 + \tan^2 53°}}{\tan 53°}$ (v) $\frac{1}{\sqrt{1 + \tan^2 53°}}$

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33. Express $\sin 30°$ in terms of $\cot 30°$

(i) $\frac{1}{\cot 30°}$ (ii) $\frac{\cot 30°}{\sqrt{1 + \cot^2 30°}}$ (iii) $\sqrt{1 + \cot^2 30°}$

(iv) $\frac{\sqrt{1 + \cot^2 30°}}{\cot 30°}$ (v) $\frac{1}{\sqrt{1 + \cot^2 30°}}$

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34. Express $\sin 66°$ in terms of $\sec 66°$

(i) $\sqrt{\sec^2 66° - 1}$ (ii) $\frac{\sec 66°}{\sqrt{\sec^2 66° - 1}}$ (iii) $\frac{\sqrt{\sec^2 66° - 1}}{\sec 66°}$

(iv) $\frac{1}{\sqrt{\sec^2 66° - 1}}$ (v) $\frac{1}{\sec 66°}$

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35. Express $\sin 74°$ in terms of $\operatorname{cosec} 74°$

(i) $\frac{\operatorname{cosec} 74°}{\operatorname{cosec}}$ (ii) $\frac{1}{\operatorname{cosec}}$ (iii) $\frac{1}{\operatorname{cosec}}$

$\sqrt{\quad}$ $274° - 1$ $\sqrt{\quad}$ $274° - 1$ $74°$

(iv) $\frac{\sqrt{\text{cosec}^2 74° - 1}}{\text{cosec}\, 74°}$ (v) $\sqrt{\text{cosec}^2 74° - 1}$

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36. Express $\cos 43°$ in terms of $\sin 43°$

(i) $\frac{\sin 43°}{\sqrt{1 - \sin^2 43°}}$ (ii) $\frac{1}{\sin 43°}$ (iii) $\frac{1}{\sqrt{1 - \sin^2 43°}}$

(iv) $\sqrt{1 - \sin^2 43°}$ (v) $\frac{\sqrt{1 - \sin^2 43°}}{\sin 43°}$

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37. Express $\cos 21°$ in terms of $\tan 21°$

(i) $\frac{\sqrt{1 + \tan^2 21°}}{\tan 21°}$ (ii) $\frac{1}{\tan 21°}$ (iii) $\sqrt{1 + \tan^2 21°}$

(iv) $\frac{\tan 21°}{\sqrt{1 + \tan^2 21°}}$ (v) $\frac{1}{\sqrt{1 + \tan^2 21°}}$

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38. Express $\cos 30°$ in terms of $\cot 30°$

(i) $\frac{1}{\sqrt{1 + \cot^2 30°}}$ (ii) $\frac{\sqrt{1 + \cot^2 30°}}{\cot 30°}$ (iii) $\frac{1}{\cot 30°}$

(iv) $\frac{\cot 30°}{\sqrt{1 + \cot^2 30°}}$ (v) $\sqrt{1 + \cot^2 30°}$

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39. Express $\cos 22°$ in terms of $\sec 22°$

(i) $\sqrt{\sec^2 22° - 1}$ (ii) $\frac{1}{\sec 22°}$ (iii) $\frac{\sqrt{\sec^2 22° - 1}}{\sec 22°}$

(iv) $\frac{1}{\sqrt{\sec^2 22° - 1}}$ (v) $\frac{\sec 22°}{\sqrt{\sec^2 22° - 1}}$

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40. Express $\cos 29°$ in terms of $\text{cosec}\, 29°$

(i) $\frac{\text{cosec}\, 29°}{\text{cosec}}$ (ii) $\frac{\sqrt{\text{cosec}^2 29° - 1}}{\text{cosec}}$ (iii) $\frac{1}{\text{cosec}}$

$\sqrt{\quad 229° - 1}$ $29°$ $\sqrt{\quad 229° - 1}$

(iv) $\sqrt{\text{cosec}^2 29° - 1}$ (v) $\dfrac{1}{\text{cosec}\, 29°}$

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41. Express $\tan 57°$ in terms of $\sin 57°$

(i) $\dfrac{\sin 57°}{\sqrt{1 - \sin^2 57°}}$ (ii) $\dfrac{1}{\sin 57°}$ (iii) $\dfrac{1}{\sqrt{1 - \sin^2 57°}}$

(iv) $\dfrac{\sqrt{1 - \sin^2 57°}}{\sin 57°}$ (v) $\sqrt{1 - \sin^2 57°}$

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42. Express $\tan 24°$ in terms of $\cos 24°$

(i) $\sqrt{1 - \cos^2 24°}$ (ii) $\dfrac{\sqrt{1 - \cos^2 24°}}{\cos 24°}$ (iii) $\dfrac{\cos 24°}{\sqrt{1 - \cos^2 24°}}$

(iv) $\dfrac{1}{\sqrt{1 - \cos^2 24°}}$ (v) $\dfrac{1}{\cos 24°}$

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43. Express $\tan 32°$ in terms of $\cot 32°$

(i) $\sqrt{1 + \cot^2 32°}$ (ii) $\dfrac{1}{\cot 32°}$ (iii) $\dfrac{\sqrt{1 + \cot^2 32°}}{\cot 32°}$

(iv) $\dfrac{\cot 32°}{\sqrt{1 + \cot^2 32°}}$ (v) $\dfrac{1}{\sqrt{1 + \cot^2 32°}}$

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44. Express $\tan 59°$ in terms of $\sec 59°$

(i) $\dfrac{1}{\sqrt{\sec^2 59° - 1}}$ (ii) $\dfrac{1}{\sec 59°}$ (iii) $\sqrt{\sec^2 59° - 1}$

(iv) $\dfrac{\sqrt{\sec^2 59° - 1}}{\sec 59°}$ (v) $\dfrac{\sec 59°}{\sqrt{\sec^2 59° - 1}}$

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45. Express $\tan 77°$ in terms of $\text{cosec}\, 77°$

(i) $\dfrac{1}{\text{cosec}}$ (ii) $\dfrac{\sqrt{\text{cosec}^2 77° - 1}}{\text{cosec}}$ (iii) $\dfrac{1}{\text{cosec}}$

$\sqrt{\quad}$ $277° - 1$ $77°$ $77°$

(iv) $\dfrac{\operatorname{cosec} 77°}{\sqrt{\operatorname{cosec}^2 77° - 1}}$ (v) $\sqrt{\operatorname{cosec}^2 77° - 1}$

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46. Express $\cot 27°$ in terms of $\sin 27°$

(i) $\dfrac{1}{\sin 27°}$ (ii) $\sqrt{1 - \sin^2 27°}$ (iii) $\dfrac{1}{\sqrt{1 - \sin^2 27°}}$

(iv) $\dfrac{\sqrt{1 - \sin^2 27°}}{\sin 27°}$ (v) $\dfrac{\sin 27°}{\sqrt{1 - \sin^2 27°}}$

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47. Express $\cot 67°$ in terms of $\cos 67°$

(i) $\sqrt{1 - \cos^2 67°}$ (ii) $\dfrac{\sqrt{1 - \cos^2 67°}}{\cos 67°}$ (iii) $\dfrac{1}{\sqrt{1 - \cos^2 67°}}$

(iv) $\dfrac{1}{\cos 67°}$ (v) $\dfrac{\cos 67°}{\sqrt{1 - \cos^2 67°}}$

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48. Express $\cot 40°$ in terms of $\tan 40°$

(i) $\dfrac{1}{\sqrt{1 + \tan^2 40°}}$ (ii) $\dfrac{1}{\tan 40°}$ (iii) $\sqrt{1 + \tan^2 40°}$

(iv) $\dfrac{\tan 40°}{\sqrt{1 + \tan^2 40°}}$ (v) $\dfrac{\sqrt{1 + \tan^2 40°}}{\tan 40°}$

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49. Express $\cot 36°$ in terms of $\sec 36°$

(i) $\dfrac{1}{\sec 36°}$ (ii) $\dfrac{\sec 36°}{\sqrt{\sec^2 36° - 1}}$ (iii) $\dfrac{1}{\sqrt{\sec^2 36° - 1}}$

(iv) $\sqrt{\sec^2 36° - 1}$ (v) $\dfrac{\sqrt{\sec^2 36° - 1}}{\sec 36°}$

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50. Express $\cot 72°$ in terms of $\operatorname{cosec} 72°$

(i) $\dfrac{1}{\operatorname{cosec}}$ (ii) $\dfrac{1}{\operatorname{cosec}}$ (iii) $\dfrac{\operatorname{cosec} 72°}{\operatorname{cosec}}$

$72°$ $\sqrt{\quad}$ $272° - 1$ $\sqrt{\quad}$ $272° - 1$

(iv) $\sqrt{\text{cosec}^2 72° - 1}$ (v) $\dfrac{\sqrt{\text{cosec}^2 72° - 1}}{\text{cosec}\, 72°}$

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51. Express $\sec 50°$ in terms of $\sin 50°$

(i) $\sqrt{1 - \sin^2 50°}$ (ii) $\dfrac{\sqrt{1 - \sin^2 50°}}{\sin 50°}$ (iii) $\dfrac{\sin 50°}{\sqrt{1 - \sin^2 50°}}$

(iv) $\dfrac{1}{\sqrt{1 - \sin^2 50°}}$ (v) $\dfrac{1}{\sin 50°}$

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52. Express $\sec 67°$ in terms of $\cos 67°$

(i) $\sqrt{1 - \cos^2 67°}$ (ii) $\dfrac{\cos 67°}{\sqrt{1 - \cos^2 67°}}$ (iii) $\dfrac{\sqrt{1 - \cos^2 67°}}{\cos 67°}$

(iv) $\dfrac{1}{\sqrt{1 - \cos^2 67°}}$ (v) $\dfrac{1}{\cos 67°}$

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53. Express $\sec 68°$ in terms of $\tan 68°$

(i) $\dfrac{\tan 68°}{\sqrt{1 + \tan^2 68°}}$ (ii) $\dfrac{\sqrt{1 + \tan^2 68°}}{\tan 68°}$ (iii) $\dfrac{1}{\tan 68°}$

(iv) $\dfrac{1}{\sqrt{1 + \tan^2 68°}}$ (v) $\sqrt{1 + \tan^2 68°}$

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54. Express $\sec 53°$ in terms of $\cot 53°$

(i) $\sqrt{1 + \cot^2 53°}$ (ii) $\dfrac{1}{\sqrt{1 + \cot^2 53°}}$ (iii) $\dfrac{\cot 53°}{\sqrt{1 + \cot^2 53°}}$

(iv) $\dfrac{1}{\cot 53°}$ (v) $\dfrac{\sqrt{1 + \cot^2 53°}}{\cot 53°}$

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55. Express $\sec 73°$ in terms of $\text{cosec}\, 73°$

(i) $\dfrac{\text{cosec}\, 73°}{\text{cosec}}$ (ii) $\sqrt{\text{cosec}^2 73° - 1}$ (iii) $\dfrac{1}{\text{cosec}}$

$\sqrt{\quad}$ $273° - 1$ $73°$

(iv) $\dfrac{1}{\sqrt{\text{cosec}^2 73° - 1}}$ (v) $\dfrac{\sqrt{\text{cosec}^2 73° - 1}}{\text{cosec}\, 73°}$

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56. Express $\text{cosec}\, 34°$ in terms of $\sin 34°$

(i) $\dfrac{1}{\sin 34°}$ (ii) $\dfrac{\sqrt{1 - \sin^2 34°}}{\sin 34°}$ (iii) $\dfrac{1}{\sqrt{1 - \sin^2 34°}}$

(iv) $\dfrac{\sin 34°}{\sqrt{1 - \sin^2 34°}}$ (v) $\sqrt{1 - \sin^2 34°}$

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57. Express $\text{cosec}\, 72°$ in terms of $\cos 72°$

(i) $\dfrac{1}{\sqrt{1 - \cos^2 72°}}$ (ii) $\sqrt{1 - \cos^2 72°}$ (iii) $\dfrac{\sqrt{1 - \cos^2 72°}}{\cos 72°}$

(iv) $\dfrac{1}{\cos 72°}$ (v) $\dfrac{\cos 72°}{\sqrt{1 - \cos^2 72°}}$

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58. Express $\text{cosec}\, 21°$ in terms of $\tan 21°$

(i) $\dfrac{1}{\sqrt{1 + \tan^2 21°}}$ (ii) $\dfrac{1}{\tan 21°}$ (iii) $\sqrt{1 + \tan^2 21°}$

(iv) $\dfrac{\sqrt{1 + \tan^2 21°}}{\tan 21°}$ (v) $\dfrac{\tan 21°}{\sqrt{1 + \tan^2 21°}}$

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59. Express $\text{cosec}\, 70°$ in terms of $\cot 70°$

(i) $\dfrac{1}{\cot 70°}$ (ii) $\dfrac{1}{\sqrt{1 + \cot^2 70°}}$ (iii) $\sqrt{1 + \cot^2 70°}$

(iv) $\dfrac{\cot 70°}{\sqrt{1 + \cot^2 70°}}$ (v) $\dfrac{\sqrt{1 + \cot^2 70°}}{\cot 70°}$

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60. Express $\text{cosec}\, 37°$ in terms of $\sec 37°$

(i) $\dfrac{\sqrt{\sec^2 37° - 1}}{\sec}$ (ii) $\dfrac{1}{\sec}$ (iii) $\dfrac{1}{\sec}$

$37°$ $37°$ $\sqrt{\ }\ 237° - 1$

(iv) $\dfrac{\sec 37°}{\sqrt{\sec^2 37° - 1}}$ (v) $\sqrt{\sec^2 37° - 1}$

Assignment Key

1) (iii)
2) (iv)
3) (ii)
4) (iii)
5) (i)
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7) (ii)
8) (iv)
9) (v)
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13) (ii)
14) (v)
15) (iv)
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17) (ii)
18) (iii)
19) (v)
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22) (iii)
23) (iii)
24) (v)
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26) (ii)
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29) (v)
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47) (v)
48) (ii)
49) (iii)
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51) (iv)
52) (v)
53) (v)
54) (v)
55) (i)

56) (i)
57) (i)
58) (iv)
59) (iii)
60) (iv)