

**EduSahara™ Learning Center Assignment****Grade : Class X, SSC****Chapter : Trigonometry****Name : Trigonometric Ratio Equivalents**

1.  $\sin A =$

$$(i) \frac{1}{\operatorname{cosec} A} \quad (ii) \frac{1}{\cos A} \quad (iii) \frac{1}{\sec A} \quad (iv) \frac{1}{\tan A} \quad (v) \frac{1}{\cot A}$$

2.  $\cos C =$

$$(i) \frac{1}{\sin C} \quad (ii) \frac{1}{\cot C} \quad (iii) \frac{1}{\sec C} \quad (iv) \frac{1}{\operatorname{cosec} C} \quad (v) \frac{1}{\tan C}$$

3.  $\tan D =$

$$(i) \frac{1}{\sin D} \quad (ii) \frac{1}{\sec D} \quad (iii) \frac{1}{\operatorname{cosec} D} \quad (iv) \frac{1}{\cos D} \quad (v) \frac{1}{\cot D}$$

4.  $\cot L =$

$$(i) \frac{1}{\tan L} \quad (ii) \frac{1}{\sin L} \quad (iii) \frac{1}{\operatorname{cosec} L} \quad (iv) \frac{1}{\sec L} \quad (v) \frac{1}{\cos L}$$

5.  $\sec E =$

$$(i) \frac{1}{\sin E} \quad (ii) \frac{1}{\operatorname{cosec} E} \quad (iii) \frac{1}{\cos E} \quad (iv) \frac{1}{\tan E} \quad (v) \frac{1}{\cot E}$$

6.  $\operatorname{cosec} L =$

$$(i) \frac{1}{\cot L} \quad (ii) \frac{1}{\cos L} \quad (iii) \frac{1}{\tan L} \quad (iv) \frac{1}{\sec L} \quad (v) \frac{1}{\sin L}$$

7. If  $\sin 5x = \cos((x+12))$ , then  $x =$

$$(i) 15 \quad (ii) 14 \quad (iii) 11 \quad (iv) 12 \quad (v) 13$$

8. If  $\cos 4x = \sin((x+35))$ , then  $x =$

(i) 13 (ii) 10 (iii) 11 (iv) 12 (v) 9

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9. If  $\tan 7x = \cot((x-6))$ , then  $x =$

(i) 13 (ii) 12 (iii) 9 (iv) 11 (v) 14

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10. If  $\cot 4x = \tan((x+40))$ , then  $x =$

(i) 8 (ii) 11 (iii) 9 (iv) 13 (v) 10

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11. If  $\sec 4x = \operatorname{cosec}((x+55))$ , then  $x =$

(i) 6 (ii) 5 (iii) 7 (iv) 10 (v) 8

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12. If  $\operatorname{cosec} 8x = \sec x$ , then  $x =$

(i) 9 (ii) 10 (iii) 11 (iv) 8 (v) 12

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13. Which of the following are true?

a)  $\tan 35^\circ = \cot 55^\circ$

b)  $\cos 23^\circ = \sin 23^\circ$

c)  $\sec 30^\circ = \operatorname{cosec} 60^\circ$

d)  $\sin 24^\circ = \cos 24^\circ$

e)  $\sin 54^\circ = \cos 36^\circ$

f)  $\sin 56^\circ = \cos 34^\circ$

g)  $\sin 39^\circ = \cos 51^\circ$

(i) {d,c} (ii) {b,a} (iii) {a,c,e,f,g} (iv) {b,d,e} (v) {b,f,g}

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14. Which of the following are true?

a)  $\sec(90 - \theta) = \operatorname{cosec} \theta$

b)  $\cos(90 - \theta) = \cot \theta$

c)  $\cot(90 - \theta) = \tan \theta$

d)  $\tan(90 - \theta) = -\tan \theta$

e)  $\cos(90 - \theta) = \cos \theta$

f)  $\operatorname{cosec}(90 - \theta) = \sec \theta$

(i) {d,a,c} (ii) {b,a} (iii) {a,c,f} (iv) {d,c} (v) {e,b,f}

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15. Which of the following are true?

a)  $\cos(90 - \theta) = \sin \theta$

b)  $\cos(90 - \theta) = -\cos \theta$

c)  $\sin(\quad) = \sin$

$$90 - \theta = - \theta$$

d)  $\sin(90 - \theta) = \cos \theta$

e)  $\tan(90 - \theta) = \cot \theta$

f)  $\cot(90 - \theta) = \tan \theta$

(i) {b,a} (ii) {c,d} (iii) {b,c,e} (iv) {a,d,e,f} (v) {b,f,a}

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**Assignment Key**

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- 1) (i)
- 2) (iii)
- 3) (v)
- 4) (i)
- 5) (iii)
- 6) (v)
- 7) (v)
- 8) (iii)
- 9) (ii)
- 10) (v)
- 11) (iii)
- 12) (ii)
- 13) (iii)
- 14) (iii)
- 15) (iv)