

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

1. Which of the following are true?

a) $\sin 20^\circ = \cos 70^\circ$

b) $\sin 40^\circ = \cos 50^\circ$

c) $\sec 52^\circ = \operatorname{cosec} 38^\circ$

d) $\tan 57^\circ = \cot 33^\circ$

e) $\cos 27^\circ = \sin 27^\circ$

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

g) $\sin 55^\circ = \cos 55^\circ$

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

2. Which of the following are true?

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

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

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

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

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

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

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

3. Which of the following are true?

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

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

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

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

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

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

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

4. Which of the following are true?

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

b) $\cot(90 + \theta) = -\tan \theta$

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

d) $\sec(90 + \theta) = -\sec \theta$

$\operatorname{cosec}(\quad) = \operatorname{cosec}$

e) $90 + \theta = - \theta$

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

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

5. Which of the following are true?

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

b) $\tan(90 + \theta) = -\cot \theta$

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

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

e) $\sin(90 + \theta) = \cos \theta$

f) $\cos(90 + \theta) = -\sin \theta$

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

6. Which of the following are true?

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

b) $\tan(-\theta) = -\tan \theta$

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

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

e) $\sin(-\theta) = \sin \theta$

f) $\sin(-\theta) = -\sin \theta$

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

7. Which of the following are true?

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

b) $\operatorname{cosec}(-\theta) = \operatorname{cosec} \theta$

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

d) $\sec(-\theta) = \sec \theta$

e) $\sec(-\theta) = -\sec \theta$

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

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

8. Which of the following are true?

a) $\cos(180 + \theta) = -\cos \theta$

b) $\sin(180 + \theta) = -\sin \theta$

c) $\tan(180 + \theta) = \tan \theta$

d) $\tan(180 + \theta) = \cot \theta$

e) $\cos(180 + \theta) = \sin \theta$

$\sin(\quad) = \cos$

f) $\sin(180 + \theta) = -\sin \theta$

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

9. Which of the following are true?

a) $\tan(180 - \theta) = -\tan \theta$

b) $\cos(180 - \theta) = -\cos \theta$

c) $\tan(180 - \theta) = -\cot \theta$

d) $\sin(180 - \theta) = \cos \theta$

e) $\cos(180 - \theta) = -\sin \theta$

f) $\sin(180 - \theta) = \sin \theta$

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

10. Which of the following are true?

a) $\operatorname{cosec}(180 + \theta) = -\operatorname{cosec} \theta$

b) $\cot(180 + \theta) = \tan \theta$

c) $\cot(180 + \theta) = \cot \theta$

d) $\sec(180 + \theta) = \operatorname{cosec} \theta$

e) $\sec(180 + \theta) = -\sec \theta$

f) $\operatorname{cosec}(180 + \theta) = \sec \theta$

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

11. Which of the following are true?

a) $\sec(180 - \theta) = -\operatorname{cosec} \theta$

b) $\operatorname{cosec}(180 - \theta) = \sec \theta$

c) $\operatorname{cosec}(180 - \theta) = \operatorname{cosec} \theta$

d) $\sec(180 - \theta) = -\sec \theta$

e) $\cot(180 - \theta) = -\cot \theta$

f) $\cot(180 - \theta) = -\tan \theta$

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

12. Which of the following are true?

a) $\cos(270 + \theta) = \cos \theta$

b) $\tan(270 + \theta) = -\cot \theta$

c) $\cos(270 + \theta) = \sin \theta$

d) $\tan(270 + \theta) = -\tan \theta$

e) $\sin(270 + \theta) = -\cos \theta$

f) $\sin(270 + \theta) = -\sin \theta$

- (i) {a,b} (ii) {b,c,e} (iii) {d,c} (iv) {d,b,c} (v) {f,a,e}
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13. Which of the following are true?

- a) $\tan(270 - \theta) = \tan \theta$
- b) $\sin(270 - \theta) = -\sin \theta$
- c) $\cos(270 - \theta) = -\cos \theta$
- d) $\tan(270 - \theta) = \cot \theta$
- e) $\cos(270 - \theta) = -\sin \theta$
- f) $\sin(270 - \theta) = -\cos \theta$

- (i) {d,e,f} (ii) {b,e} (iii) {a,d} (iv) {c,a,f} (v) {b,d,e}
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14. Which of the following are true?

- a) $\cot(270 + \theta) = -\cot \theta$
- b) $\sec(270 + \theta) = \operatorname{cosec} \theta$
- c) $\sec(270 + \theta) = \sec \theta$
- d) $\cot(270 + \theta) = -\tan \theta$
- e) $\operatorname{cosec}(270 + \theta) = -\operatorname{cosec} \theta$
- f) $\operatorname{cosec}(270 + \theta) = -\sec \theta$

- (i) {e,a,f} (ii) {a,b} (iii) {c,d} (iv) {b,d,f} (v) {c,b,d}
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15. Which of the following are true?

- a) $\sec(270 - \theta) = -\operatorname{cosec} \theta$
- b) $\sec(270 - \theta) = -\sec \theta$
- c) $\operatorname{cosec}(270 - \theta) = -\operatorname{cosec} \theta$
- d) $\operatorname{cosec}(270 - \theta) = -\sec \theta$
- e) $\cot(270 - \theta) = \tan \theta$
- f) $\cot(270 - \theta) = \cot \theta$

- (i) {c,d} (ii) {a,d,e} (iii) {b,a} (iv) {c,a,d} (v) {f,b,e}
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16. Which of the following are true?

- a) $\tan(360 + \theta) = \tan \theta$
- b) $\cos(360 + \theta) = \sin \theta$
- c) $\cos(360 + \theta) = \cos \theta$
- d) $\tan(360 + \theta) = \cot \theta$
- e) $\sin(360 + \theta) = \cos \theta$
- f) $\sin(360 + \theta) = \sin \theta$

- (i) {d,c} (ii) {e,b,f} (iii) {a,c,f} (iv) {d,a,c} (v) {b,a}
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17. Which of the following are true?

a) $\tan(360 - \theta) = -\tan \theta$

b) $\cos(360 - \theta) = \cos \theta$

c) $\cos(360 - \theta) = \sin \theta$

d) $\tan(360 - \theta) = -\cot \theta$

e) $\sin(360 - \theta) = -\sin \theta$

f) $\sin(360 - \theta) = -\cos \theta$

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

Assignment Key

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