EduSahara™ Assignment

Name : Trigonometric Ratios of Complementary Angles

Chapter : Trigonometrical Identities

Grade : ICSE Grade X



1. Which of the following are true?

a) $\cos 22° = \sin 22°$
b) $\tan 23° = \cot 67°$
c) $\sin 36° = \cos 54°$
d) $\sin 48° = \cos 42°$
e) $\sin 28° = \cos 62°$
f) $\sec 31° = \operatorname{cosec} 59°$
g) $\sin 57° = \cos 57°$

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

2. Which of the following are true?

a) $\tan(90 - \theta) = -\tan\theta$
b) $\operatorname{cosec}(90 - \theta) = \sec\theta$
c) $\cos(90 - \theta) = \cot\theta$
d) $\cos(90 - \theta) = \cos\theta$
e) $\sec(90 - \theta) = \operatorname{cosec}\theta$
f) $\cot(90 - \theta) = \tan\theta$

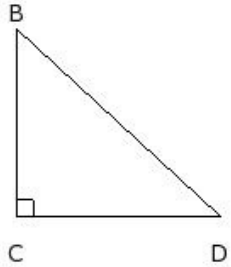
(i) {c,e} (ii) {d,a,f} (iii) {c,b,e} (iv) {a,b} (v) {b,e,f}

3. Which of the following are true?

a) $\cos(90 - \theta) = \sin\theta$
b) $\sin(90 - \theta) = \cos\theta$
c) $\tan(90 - \theta) = \cot\theta$
d) $\cos(90 - \theta) = -\cos\theta$
e) $\sin(90 - \theta) = -\sin\theta$
f) $\cot(90 - \theta) = \tan\theta$

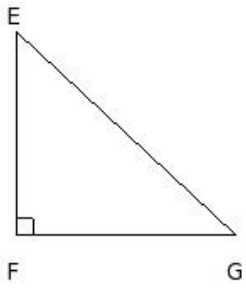
(i) {e,b} (ii) {d,a} (iii) {a,b,c,f} (iv) {d,e,c} (v) {d,f,a}

4. From the given figure, find $\sin(90 - D)$



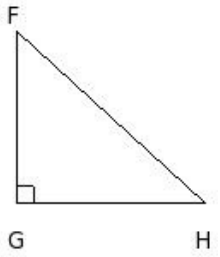

(i) $\frac{CD}{BC}$ (ii) $\frac{BC}{CD}$ (iii) $\frac{BD}{BC}$ (iv) $\frac{CD}{BD}$ (v) $\frac{BC}{BD}$

5. From the given figure, find $\cos(90 - E)$



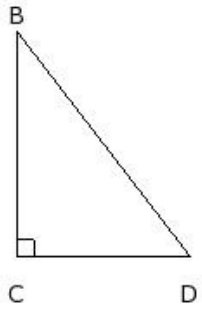

(i) $\frac{FG}{EF}$ (ii) $\frac{EF}{FG}$ (iii) $\frac{EF}{EG}$ (iv) $\frac{FG}{EG}$ (v) $\frac{EG}{EF}$

6. From the given figure, find $\tan(90 - H)$



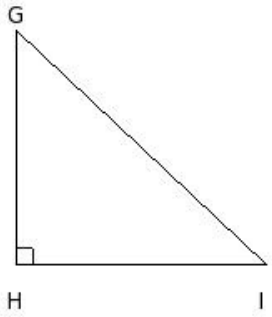

(i) $\frac{GH}{FH}$ (ii) $\frac{FH}{GH}$ (iii) $\frac{FG}{FH}$ (iv) $\frac{FH}{FG}$ (v) $\frac{GH}{FG}$

7. From the given figure, find $\text{cosec}(90 - B)$



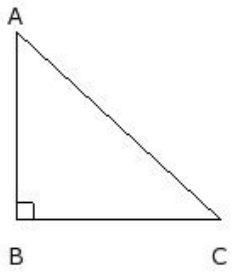

(i) $\frac{BC}{CD}$ (ii) $\frac{CD}{BC}$ (iii) $\frac{CD}{BD}$ (iv) $\frac{BD}{CD}$ (v) $\frac{BD}{BC}$

8. From the given figure, find $\sec(90 - G)$




(i) $\frac{GI}{GH}$ (ii) $\frac{GH}{GI}$ (iii) $\frac{GI}{HI}$ (iv) $\frac{HI}{GH}$ (v) $\frac{GH}{HI}$

9. From the given figure, find $\cot(90 - C)$




(i) $\frac{AB}{BC}$ (ii) $\frac{AC}{BC}$ (iii) $\frac{AB}{AC}$ (iv) $\frac{AC}{AB}$ (v) $\frac{BC}{AC}$

## Assignment Key

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|---|---|---|---|---|---|
| 1) (v) | 2) (v) | 3) (iii) | 4) (iv) | 5) (iv) | 6) (v) |
| 7) (v) | 8) (iii) | 9) (i) | | | |