

1. The value of $\cos 0^\circ \cdot \cos 1^\circ \cdot \cos 2^\circ \cdot \cos 3^\circ \dots \cos 89^\circ \cos 90^\circ$ is

- (a) 1
- (b) -1
- (c) 0
- (d) $\frac{1}{\sqrt{2}}$

▼ **Answer**

Answer: c

2. If $x \tan 45^\circ \sin 30^\circ = \cos 30^\circ \tan 30^\circ$, then x is equal to

- (a) $\sqrt{3}$
- (b) $\frac{1}{2}$
- (c) $\frac{1}{\sqrt{2}}$
- (d) 1

▼ **Answer**

Answer: d

3. If x and y are complementary angles, then

- (a) $\sin x = \sin y$
- (b) $\tan x = \tan y$
- (c) $\cos x = \cos y$
- (d) $\sec x = \operatorname{cosec} y$

▼ **Answer**

Answer: d

4. $\sin 2B = 2 \sin B$ is true when B is equal to

- (a) 90°
- (b) 60°
- (c) 30°
- (d) 0°

▼ **Answer**

Answer: d

5. If A, B and C are interior angles of a ΔABC then $\cos\left(\frac{B+C}{2}\right)$ is equal to

(a) $\sin \frac{A}{2}$

(b) $-\sin \frac{A}{2}$

(c) $\cos \frac{A}{2}$

(d) $-\cos \frac{A}{2}$

▼ Answer

Answer: a

6. If A and $(2A - 45^\circ)$ are acute angles such that $\sin A = \cos (2A - 45^\circ)$, then $\tan A$ is equal to

(a) 0

(b) $\frac{1}{\sqrt{3}}$

(c) 1

(d) $\sqrt{3}$

▼ Answer

Answer: c

7. If $y \sin 45^\circ \cos 45^\circ = \tan^2 45^\circ - \cos^2 30^\circ$, then $y = \dots$

(a) $-\frac{1}{2}$

(b) $\frac{1}{2}$

(c) -2

(d) 2

▼ Answer

Answer: b

8. If $\sin \theta + \sin^2 \theta = 1$, then $\cos^2 \theta + \cos^4 \theta = \dots$

(a) -1

(b) 0

(c) 1

(d) 2

▼ Answer

Answer: c

9. $5 \tan^2 A - 5 \sec^2 A + 1$ is equal to

- (a) 6
- (b) -5
- (c) 1
- (d) -4

▼ **Answer**

Answer: d

10. If $\sec A + \tan A = x$, then $\sec A =$

(a) $\frac{x^2 - 1}{x}$

(b) $\frac{x^2 - 1}{2x}$

(c) $\frac{x^2 + 1}{x}$

(d) $\frac{x^2 + 1}{2x}$

▼ **Answer**

Answer: d

11. If $\sec A + \tan A = x$, then $\tan A =$

(a) $\frac{x^2 - 1}{x}$

(b) $\frac{x^2 - 1}{2x}$

(c) $\frac{x^2 + 1}{x}$

(d) $\frac{x^2 + 1}{2x}$

▼ Answer

Answer: b

12. $\frac{1 - \cos A}{\sin A}$ is equal to

(a) $\frac{\sin A}{1 - \cos A}$

(b) $\frac{\sin A}{1 + \cos A}$

(c) $\frac{\cos A}{1 - \cos A}$

(d) $\frac{\cos A}{1 + \cos A}$

▼ Answer

Answer: b

13. If $x = a \cos \theta$ and $y = b \sin \theta$, then

$$b^2x^2 + a^2y^2 =$$

- (a) ab
- (b) $b^2 + a^2$
- (c) a^2b^2
- (d) a^4b^4

▼ **Answer**

Answer: c

14. What is the maximum value of $\frac{1}{\csc A}$?

- (a) 0
- (b) 1
- (c) $\frac{1}{2}$
- (d) 2

▼ **Answer**

Answer: b

15. What is the minimum value of $\sin A$,

$$0 \leq A \leq 90^\circ$$

(a) -1

(b) 0

(c) 1

(d) $\frac{1}{2}$

▼ **Answer**

Answer: b

16. What is the minimum value of $\cos$

$$\theta, 0 \leq \theta \leq 90^\circ$$

(a) -1

(b) 0

(c) 1

(d) $\frac{1}{2}$

▼ **Answer**

Answer: b

17. Given that $\sin \theta = \frac{a}{b}$, then $\tan \theta =$

(a) $\frac{b}{\sqrt{b^2 - a^2}}$

(b) $\frac{\sqrt{b^2 - a^2}}{b}$

(c) $\frac{a}{\sqrt{b^2 - a^2}}$

(d) $\frac{\sqrt{b^2 - a^2}}{a}$

▼ **Answer**

Answer: c

18. If $\cos 9A = \sin A$ and $9A < 90^\circ$, then the value of $\tan 5A$ is

(a) 0

(b) 1

(c) $\frac{1}{\sqrt{3}}$

(d) $\sqrt{3}$

▼ **Answer**

Answer: b

19. If in $\triangle ABC$, $\angle C = 90^\circ$, then $\sin (A + B) =$

- (a) 0
- (b) $1/2$
- (c) $\frac{1}{\sqrt{2}}$
- (d) 1

▼ **Answer**

Answer: d

20. If $\sin A - \cos A = 0$, then the value of $\sin^4 A + \cos^4 A$ is

- (a) 2
- (b) 1
- (c) $\frac{3}{4}$
- (d) $\frac{1}{2}$

▼ **Answer**

Answer: d
