1. The study of relationships between the sides and angles of a triangle is —-

A. Statistics
B. Trigonometry
C. Geometry

2. The values of the trigonometric ratios of an angle ————— with the lengths of the sides of the triangle, if the angle remains the same.

A. vary
B. Do not vary
C. None of these

3. The value of sin A or cos A never exceeds —————

A. One
B. Two
C. Three

4. The value of sec A or cosec A is always ——————-

A. Less than or equal to one
B. Greater than or equal to one
C. Equal to one

5. Which of the following is false?

A. sin (90 – A) = sec A
B. cos (90 – A) = sin A
C. tan (90 – A) = cot A

6. The value of tan 45 is —————-

A. 1
B. 0
C. 1/2

7. Ratios of sides of a right triangle with respect to its acute angles are knownas —————-

A. Trigonometric Identities
B. Trigonometric Ratios
C. Trigonometry

8. sin (90 – A) = —————-

A. sin A
B. cos A
C. tan A

9. Reciprocal of sin A is ————-

A. cosec A
B. sec A
C. cot A

10. Reciprocal of cos A is ———-

A. cosec A
B. sec A
C. cot A

11. Reciprocal of tan A is ————-

A. cosec A
B. sec A
C. cot A

12. If sin A = cos A and the value of A lies between 0 and 90, then A = ———-

A. 0
B. 45
C. 90

13. The value of cot A and tan (90 –A) are ————

A. Different
B. Same
C. None of these

14. If tan A = 4/3 and sin A = 4/5 then cos A = —————-

A. 4/5
B. 3/5
C. ¾

15. Which of the following is true?

A.sec A = 12/5 for some value of angle A.
B. The value of tan A is always less than one.
C. cot A is the product of cot and A.

ANSWERS:
1. Trigonometry
2. Do not vary
3. One
4. Greater than or equal to one
5. sin (90- A) = sec A
6. One

7. Trigonometric Ratios
8. cos A
9. cosec A
10. sec A
11. cot A
12. 45
13. Same
14. 3/5
15. sec A = 12/5 for some value of angle A.

Question 2.
Given that sin α = 12 and cos β = 12, then the value of (α + β) is
(a) 0°
(b) 30°
(c) 60°
(d) 90°
Answer: (d) 90°

Question 3.
If tan θ = 3, then 4sinθ–cosθ/4sinθ+cosθ is equal to
(a) 2/3
(b) 1/3
(c) 1/2
(d) 3/4
Answer: (c) 1/2

Question 4.
sin (45° + θ) – cos (45° – θ) is equal to
(a) 2 cos θ
(b) 0
(c) 2 sin θ
(d) 1

Answer
Answer: (b) 0

Question 5.
If √2 sin (60° – α) = 1 then α is

(a) 45°
(b) 15°
(c) 60°

Answer: (b) 15°

Question 6.
The value of $\sin^2 30° - \cos^2 30°$ is
(a) $-1/2$
(b) $\sqrt{3}/2$
(c) $3/2$
(d) $-2/3$
Answer: (a) -12

Question 7.
The maximum value of $1/\mathrm{cosec}\,\alpha$ is
(a) 0
(b) 1
(c) $\sqrt{3}/2$
(d) $-1/\sqrt{2}$
Answer: (b) 1

Question 8.
If $\cos(40° + A) = \sin 30°$, then value of A is
(a) 30°
(b) 40°
(c) 60°
(d) 20°

Answer: (d) 20°

Question 9.
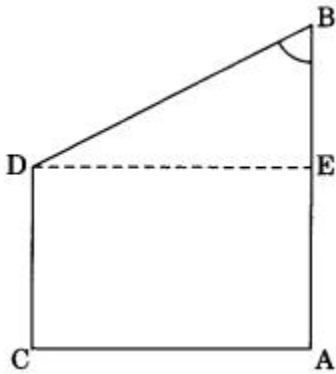If $\mathrm{cosec}\,\theta - \cot\theta = 1/3$, the value of $(\mathrm{cosec}\,\theta + \cot\theta)$ is

(a) 1
(b) 2
(c) 3
(d) 4
Answer: (c) 3

Question 10.
In the given figure, if AB = 14 cm, BD = 10 cm and DC = 8 cm, then the value of tan B is

(a) 4/3
(b) 14/3
(c) 5/3
(d) 13/3
Answer: (a) 4/3

Question 11.
1+tan2A/1+cot2A is equal to
(a) sec² A
(b) -1
(c) cot² A
(d) tan² A

Question 12.
If cos A + cos² A = 1, then sin² A + sin⁴ A is equal to
(a) -1
(b) 0
(c) 1
(d) None of these

Answer: (c) 1

Question 13.
If $\sin \theta + \sin^2 \theta = 1$ then $\cos^2 \theta + \cos^4 \theta$ is equal
(a) -1
(b) 1
(c) 0
(d) None of these

Answer: (b) 1

Question 14.
$2(\sin^6 \theta + \cos^6 \theta) - 3(\sin^4 \theta + \cos^4 \theta)$ is equal to
(a) 0
(b) 6
(c) -1
(d) None of these

Answer: (c) -1

Question 15.
If $\cos (81 + \theta)° = \sin(k/3 - \theta)°$ where θ is an acute angle, then the value of k is
(a) 18°
(b) 27°
(c) 9°
(d) 81°

Question 16.
$3 \sin^2 20° - 2 \tan^2 45° + 3 \sin^2 70°$ is equal to
(a) 0
(b) 1
(c) 2
(d) -1

Answer: (b) 1

Question 17.
If sin 2A = 12 tan² 45° where A is an acute angle, then the value of A is
(a) 60°
(b) 45°
(c) 30°
(d) 15°

Question 19.
If x sin (90° – θ) cot (90° – θ) = cos (90° – θ), then x is equal to
(a) 0
(b) 1
(c) -1
(d) 2

Answer: (b) 1

Question 20.
If A + B = 90°, cot B = 34 then tan A is equal to:
(a) 53
(b) 13
(c) 34
(d) 14
Answer: (c) 34