

## CBSE Class 10 Mathematics Worksheet

1.

$$\text{If } \sin A = \frac{a^2 - b^2}{a^2 + b^2}$$

Find the values of  $\sec A$  and  $\operatorname{cosec} A$ .

A)

$$\frac{a^2 - b^2}{2ab}, \frac{a^2 + b^2}{2ab}$$

B)

$$\frac{a^2 + b^2}{2ab}, \frac{a^2 + b^2}{a^2 - b^2}$$

C)

$$\frac{a^2 + b^2}{2ab}, \frac{a^2 - b^2}{2ab}$$

D)

$$\frac{a^2 - b^2}{2ab}, \frac{a^2 + b^2}{2ab}$$

E)

None of these.

2.

find

$$(2 \sin 68^\circ \div \cos 22^\circ) - (2 \cot 15^\circ \div 5 \tan 75^\circ) - (3 \tan 45^\circ \cdot \tan 20^\circ \cdot \tan 45^\circ \cdot \tan 70^\circ \div 5) = ?$$

A)

1

B)

-1

3.

If a pole 6m high casts a shadow 23 m long on the ground, then the sun's elevation is

A)

60°

B)

45°

C)

30°

D)

90°

4.

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

A)

1/2

B)

1/2

C)

3

D)

1

5.  $\cos 1 \cos 2 \cos 3 \dots \cos 180 = ?$

A)

-1

B)

0

C)

1

D)

1/2

6. If  $3 \tan = 4$  than find  $(3 \sin + 2 \cos) / (3 \sin - 2 \cos) = ?$

A)

2

B)

3

7.

TAN  $45^{\circ}$

A)

$1/(\text{Square root of } 2)$

B)

0

C)

$1/2$

D)

$1/4$

8.

A cow is tied with a rope of length 14 m at the corner of a rectangular field of dimensions  $20\text{m} \times 16\text{m}$ , then the area of the field in which the cow can graze is:

A)

$154 \text{ m}^2$

B)

$156 \text{ m}^2$

C)

$158 \text{ m}^2$

D)

$160 \text{ m}^2$

9.

If  $(\cos\theta + \sec\theta) = \frac{5}{2}$  then  $(\cos^2\theta + \sec^2\theta) = ?$

A)

$$\frac{21}{4}$$

B)

$$\frac{17}{4}$$

C)

$$\frac{29}{4}$$

D)

$$\frac{33}{4}$$

10.

In a triangle, ABC , right angled at A, if  $AB=12$ ,  $AC=5$ , and  $BC=13$ .

find Sin B, Cos B and Cosec C and Cot C.

A)

$(13/5)$ ,  $(12/13)$ ,  $(13/12)$ ,  $(5/12)$

B)

$(5/13)$ ,  $(12/13)$ ,  $(13/12)$ ,  $(5/12)$

C)

$(5/13)$ ,  $(13/12)$ ,  $(13/12)$ ,  $(5/12)$

D)

$(5/13)$ ,  $(12/13)$ ,  $(13/12)$ ,  $(12/5)$

E)

None of these

11.  $\sin 30^\circ + \cos 60^\circ = ?$

A)

1

B)

$\frac{1}{2}$

C)

$\frac{\sqrt{3}}{2}$

D)

None of these

12. If  $\cos x = \cos 60^\circ \cos 30^\circ + \sin 60^\circ \sin 30^\circ$ , then find the value of x

13.  $\sin^2 A + \cos^2 A$

A)

1

B)

0

C)

2

D)

none

14. Which of the following is most closely associated with the terms “primary trend,” “intermediate trend,” and “short-term trend”?

A)

Bar chart.

B)

Channel.

C)

Candlestick chart.

D)

Dow Theory.



15.

In an acute angle triangle, if  $\tan(A+B-C)=1$  and  $\sec(B+C-A)=2$

Find A, B, C.

A)

$45^\circ, 90^\circ, 45^\circ$

B)

$60^\circ, 65.5^\circ, 67.5^\circ$

C)

$30^\circ, 60^\circ, 90^\circ$

D)

$50^\circ, 50^\circ, 80^\circ$

E)

None of these.

16.

**If  $2x = \sec A$  and  $\frac{2}{x} = \tan A$  then  $2(x^2 - \frac{1}{x^2}) = ?$**

A)

$$\frac{1}{2}$$

B)

$$\frac{1}{4}$$

C)

$$\frac{1}{8}$$

D)

$$\frac{1}{16}$$

17.

Simplify:  $\sin 0^\circ + \cos 0^\circ$

A)

0

B)

1

C)

$\frac{1}{2}$

D)

$\frac{2}{3}$

18.

In triangle OPQ right angled at P,  $OP=7\text{cm}$ ,  $OQ-PQ=1\text{cm}$ .

Determine the values of  $\sin Q$ ,  $\cos Q$ ,  $\sec O$ , and  $\text{cosec } O$ .

A)

$(7/25)$ ,  $(24/25)$ ,  $(25/7)$ ,  $(25/24)$

B)

$(25/7)$ ,  $(24/25)$ ,  $(25/7)$ ,  $(25/24)$

C)

$(7/25)$ ,  $(25/24)$ ,  $(25/7)$ ,  $(25/24)$

D)

$(7/25)$ ,  $(24/25)$ ,  $(25/7)$ ,  $(24/25)$

E)

None of these

19.

$$(\sin 30^\circ + \cos 30^\circ) - (\sin 60^\circ + \cos 60^\circ)$$

A)

-1

B)

0

C)

1

D)

2

20.

$$(\cos x - \sin x)/(\cos x + \sin x) = (1-3)/(1+3)$$

find x .

A)

30°

B)

45°

C)

0°

D)

60°

E)

None of these

## CBSE Class 10 Mathematics Worksheet

### Answers

1. Option B
2. Option A
3. Option A
4. Option D
5. Option B
6. Option B
7. Option A
8. Option A
9. Option B
10. Option B
11. Option A

Solution:

$$\sin 30^\circ + \cos 60^\circ = \frac{1}{2} + \frac{1}{2} = 1$$

12.  $30^\circ$

13. Option A
14. Option D
15. Option B
16. Option A
17. Option B
18. Option A
19. Option B
20. Option D