

# Trigonometry Worksheet-2

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## Question 1.

If  $\sec X = 1/a$ , prove that  $\sec X + \tan X = 2a$  or  $1/2a$

## Question 2.

If  $\sin A + \sin^2 A = 1$ , then find the value of  $(\cos^2 A + \cos^4 A)$ .

## Question 3

If  $x(\cos A) - y(\sin A) = a$ ,  $x(\sin A) + y(\cos A) = b$ , tick whichever option is correct

a)  $x^2 - y^2 = a^2 - b^2$

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

c)  $x^2 + y^2 = a^2 - b^2$

d)  $x^2 - y^2 = a^2 + b^2$

## Question 3

If  $\tan 2A = \cot (A - 180)$ , where  $2A$  is an acute angle. Find the value of  $A$ .

## Question 4

If  $\tan (A+B) = \sqrt{3}$  and  $\tan (A - B) = 1/\sqrt{3}$ . Find the value of  $A$  and  $B$ .

## Question 5

If  $\sin(A+B) = 1$  and  $\cos(A-B) = \sqrt{3}/2$ ,  $0^\circ \leq (A+B) \leq 90^\circ$ ,  $A \leq B$ , then find the value of A and B.

**Question 6**

If  $\sin A = \frac{3}{4}$  Find  $\cos A$  and  $\tan A$ .

**Question 7**

If  $\cos A = 1/2$ ,  $\sin B = 1/2$  then value of  $A + B$

- a) 30
- b) 60
- c) 90
- d) 120

**Question 8**

If  $\sin(X + Y) = \cos(X - Y) = 1$  then

- a)  $X = Y = 90$
- b)  $X = Y = 0$
- c)  $X = Y = 45$
- d)  $X = 2Y$

**Answer**

- 3) b
- 7) c
- 8) c