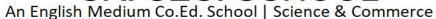


REE A





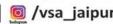
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Worksheet for Subject - Maths

Class-XII

Topic Inverse Trigonometry Functions

1. Show that
$$\tan^{-1}\frac{1}{2} + \tan^{-1}\frac{2}{11} = \tan^{-1}\frac{3}{4}$$

2. Express
$$\tan^{-1} \left(\frac{\cos x}{1-\sin x} \right), \frac{-3\pi}{2} < x < \frac{\pi}{2}$$
 in the simplest form.

3. Express
$$\tan^{-1} \left(\frac{3a^2x - x^3}{a^3 - 3ax^2} \right)$$
, a>0; $\frac{a}{\sqrt{3}} < x < \frac{a}{\sqrt{3}}$ in the simplest form.

Find the values of each of the following:

4.
$$\tan^{-1} \left[2\cos\left(2\sin^{-1}\frac{1}{2}\right) \right]$$

5.
$$\cot (\tan^{-1} a + \cot^{-1} a)$$

6.
$$\sin^{-1}\left(\sin\frac{2\pi}{3}\right)$$

7. If
$$\tan -1 \frac{x-1}{x-2} + \tan -1 \frac{x+1}{x+2} = \frac{\pi}{4}$$
, then find the value of x.