MINI Quiz - 3
TRIGONOMETRY

Q.1 if $\sin\theta = \frac{1}{2}$ and θ is an acute angle then $(3\cos\theta - 4\cos^3\theta)$ is equal to:

(a) 0 (b) $\frac{1}{2}$ (c) $\frac{1}{6}$ (d) -1

Q.2 if $\sin\theta = \frac{12}{13}$ then the value of the $\frac{2\cos\theta + 3\tan\theta}{\sin\theta + \tan\theta\sin\theta}$ is

(a) $\frac{12}{5}$ (b) $\frac{5}{13}$ (c) $\frac{259}{102}$ (d) $\frac{259}{65}$

Q.3 given that $\sin\theta = \frac{a}{b}$, then $\tan\theta$ is equal to:

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

S.Q.P (Ba 2021-22

Q.4 if $4\tan\beta = 3$, then $\frac{4\sin\beta - 3\cos\beta}{4\sin\beta + 3\cos\beta} = ?$

(a) $\frac{1}{3}$ (b) 0 (c) $\frac{2}{3}$ (d) $\frac{3}{4}$

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Q.5 if $\sin\theta - \cos\theta = 0$, then the value of $(\sin^4\theta + \cos^4\theta)$ is:

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

Q.6 The value of $2\tan^2 60^\circ - 4\cos^2 45^\circ - 3\sec^2 30^\circ$ is:

(a) 0 (b) 1

(c) 12 (d) 8

(7) If $\tan\theta = \frac{x\sin\phi}{1-x\cos\phi}$ and $\tan\phi = \frac{y\sin\theta}{1-y\cos\theta}$

then $\frac{x}{y}$ is equal to:

(a) $\frac{\sin\phi}{\sin\theta}$ (b) $\frac{\sin\theta}{\sin\phi}$ (c) $\frac{\sin\theta}{1-\cos\theta}$ (d) $\frac{\sin\theta}{1-\cos\phi}$

(8) The Solution of the trigonometric equation

$$\frac{\cos^2\theta}{\cot^2\theta - \cos^2\theta} = 3 \qquad 0^\circ < \theta < 90^\circ$$

(a) $\theta = 0^\circ$ (b) $\theta = 30^\circ$ (c) $\theta = 60^\circ$ (d) $\theta = 90^\circ$

9) What is the Value of $(\tan\theta\,\mathrm{cosec}\,\theta)^2 - (\sin\theta\sec\theta)^2$

(a) 0 (b) -2

(c) 1 (d) -1

10) if $\tan\alpha + \cot\alpha = 2$, then $\tan^{20}\alpha + \cot^{20}\alpha = ?$

(a) 2 (b) 0

(c) 20 (d) 2^{20}

All the best!!