Math 222- Timed exercise -2- (53402)

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Marks: 

 **Choose the correct answer**

1. $ \frac{1+tan^{2}x}{tan^{2}x}$ **is equal to**

 **(a)** $csc^{2}x$ **(b)** $cot^{2}x$ **(c)** $sec^{2}x$ **(d) None of the previous**

1. $ cos\left(\frac{2π-1}{4}\right)$ **is equal to**

 **(a)** $sin\frac{1}{4}$ **(b)** $cos\frac{1}{4}$ **(c)** $0$ **(d) None of the previous**

1. $ cos70^{°}cos53^{°}+sin70^{°}sin53^{°}$ **is equal to**

 **(a)** $ cos17^{°}$ **(b)** $cos123^{°}$ **(c)** $-cos17^{°}$ **(d) None of the previous**

1. **If** $ y=cos\frac{2x}{3}$ **then** $\frac{dy}{dx}$ **then is equal to**

 **(a)**$ \frac{2}{3}sin\frac{2x}{3}$ **(b)** $-\frac{2}{3}sin\frac{2x}{3}$ **(c)** $-sin\frac{2x}{3}$ **(d) None of the previous**

1. **If**$ α$ **and** $β$ **are acute angles s.t** $cosα=\frac{4}{5}$ **and** $tanβ=\frac{8}{15} ,$ **then** $sin\left(α+β\right) $**is equal to**

 **(a)** $\frac{36}{85}$ **(b)** $\frac{77}{85}$ **(c)** $\frac{85}{36}$ **(d) None of the previous**

1. $ tan\left(x-\frac{π}{4}\right)$ **is equal to**

 **(a)** $ \frac{tanx+1}{tanx-1}$ **(b)** $\frac{tanx-1}{tanx+1}$ **(c)** $cotx$ **(d) None of the previous**

1. **The derivative** $\frac{dy}{dx}$ **of** $ y=4e^{2x}+\frac{2}{e^{2x}}+π^{2}$ **is equal to**

 **(a)** $4e^{2x-1}+\frac{2}{e^{2x-1}}+2π$ **(b)** $8e^{2x}-\frac{2}{e^{2x}}$ **(c)** $8e^{2x}-\frac{4}{e^{2x}}$ **(d) None of the previous**

1. $\left(2sin\frac{π}{4}\right)\left(2cos\frac{π}{4}\right)$ **is equal to**

 **(a)**$ 1$ **(b)** $ 4$ **(c)** $2$ **(d) None of the previous**

1. $\left(secθ+tanθ\right)\left(1-sinθ\right)$ **is equal to**

 **(a)**$ 1-sinθ$ **(b)** $ sinθ$ **(c)** $cosθ$ **(d) None of the previous**

1. **Given** $A=50^{°}$**,** $C=30^{°}$ **and** $ a=10$ **in** $∆ABC$ **, then** $c$ **is equal to**

 **(a)** $ 6.5$ **(b)** $5.6$ **(c)** $6$ **(d) None of the previous**

1. **Given** $y=e^{-x}\left(e^{x}+1\right)$ **then** $\frac{d^{2}y}{dx^{2}}\left(0\right)$ **is equal to**

 **(a)** $ 1$ **(b)** $-1$ **(c)** $0$ **(d) None of the previous**

1. **Given** $B=30^{°}$**,** $a=10 $**and** $c=12$ **in** $∆ABC$ **, then** $b$ **is equal to**

 **(a)** $ 6.013$ **(b)** $12.03$ **(c)** $3.06$ **(d) None of the previous**

1. **The average rate of change of** $ y=x^{2}$ **across the interval** $x=1$ **to** $x=4$ **is equal to**

 **(a)** $-5$ **(b)** $5$ **(c)** $\frac{1}{5}$ **(d) None of the previous**

1. **The rate of change of** $ H\left(t\right)=5sint-3cos2t$ **at**$t=1.3$ **is equal to**

 **(a)** $4.4305$ **(b)** $-3.231$ **(c)** $5.043$ **(d) None of the previous**

1. $sin\left(u+v\right).sin\left(u-v\right)$ **is equal to**

 **(a)** $ sin^{2}u+sin^{2}v$ **(b)** $sin^{2}u-sin^{2}v$ **(c)** $sin^{2}v-sin^{2}u$ **(d) None of the previous**

1. $tan\left(π-θ\right)$ **is equal to**

 **(a)** $-tanθ$ **(b)** $tanθ$ **(c)** $cotθ$ **(d) None of the previous**

1. **If**$ sinα=\frac{4}{5}$ **and** $α$ **is an acute angle then the exact value of** $sin2α$ **is equal to**

 **(a)** $\frac{25}{24}$ **(b)** $-\frac{24}{25}$ **(c)** $\frac{24}{25}$ **(d) None of the previous**

1. $sin^{4}u-sin^{4}v$ **is equal to**

 **(a)** $ sin2θ$ **(b)** $ cos4θ$ **(c)** $cos2θ$ **(d) None of the previous**

1. **A ladder 20ft long leans against the side of a building, and the angle between the ladder and the building is** $22^{°}$**, then the distance from the bottom of the ladder to the building is approximately equal to**

**(a)** $ 1.51ft$ **(b)** $ 7.49ft$ **(c)** $5.79$ **(d) None of the previous**

1. **From a point on level ground 135ft from the base of a tower the angle of elevation of the top of the tower is** $57^{°}20^{'}$**, then the height of the tower is approximately equal to**

**(a)** $ 211ft$ **(b)** $ 112ft$ **(c)** $122$ **(d) None of the previous**