

King Fahd University of Petroleum & Minerals  
Department of Mathematics & Statistics -**Math101-Term072-Quiz4-B**

Name:

ID:

Sec.:

Serial:

---

**Q.1** Find the point on the curve  $f(x) = \cosh(x)$  for which the tangent line is perpendicular to the line  $y = -x - 6$

---

**Q2.** If a snowball melts so that its surface area decreases at a rate of  $1 \text{ cm}^2 / \text{min}$ . find the rate at which the volume decreases when the diameter is  $10 \text{ cm}$  NOTE:  $\left( \text{Volume} = \frac{4}{3} \pi r^3, \text{Surface Area} = 4 \pi r^2 \right)$

---

**Q3.** Use differentials to estimate  $\sin(61^\circ)$