MATH 31	Name
TRIGONOMETRY HW #4	Date

1. Find the local maximum and minimum for $f(x) = x - 2\sin x$ on the interval $[0, 2\pi]$. Justify.

2. A radar antenna, rotating at 32 rev/min, is located on a ship that is 4 km from a straight shore. How fast does the radar beam sweep across the shore when the angle between the beam and the

shore is $\frac{\pi}{4}$?

3. A 10 metre long ladder rests against a vertical wall. If the bottom of the ladder slides away from the wall at a speed of 2 m/s, how fast is the angle between the top of the ladder and the wall changing when the angle is $\frac{\pi}{4}$?