1. Let w, the weight of a bull in kilograms, be a function of time t weeks. Suppose that at time $t = 3, w = f(3) = 35$ kg and $f'(3) = 1.5$ kg per week. Can you give an approximate weight of the bull in 3 and a half weeks ?

2. The demand equation for a certain product is given by

$$q = (100 - p)\cos(\frac{\pi p}{100})$$

for $0 \leq p \leq 50$, where p is the unit price in dollars and q is the quantity demanded. Find the point elasticity of demand when $p = \$25$.

3. Find an approximate solution to the equation $x^3 + x = 1$ by doing two iterations of Newton's Method starting at $x_1 = 1$. (*Use your calculator. Give your answer to three decimal digits.)*

4. We are interested in finding the intersection point of the curves $y = \sin x$ and $y = \frac{2x}{3}, x > 0$ Can you try to get an approximation via Newton's method ?

[1] **Office hours:** Monday: 1:45-3:15pm, Tuesday:3:30-4:30pm, Wednesday 10:30-11:30am,2:15-3:15pm