<u>Present neatly. Justify for full credit. No Calculators.</u>

Name _____   Score _____   ~15 minutes / A

1. Show that the equation has at least one root in the given interval.

$$\cos x = x, \quad (0, 1)$$

2.

Find the values of a and b that make f continuous everywhere.

$$f(x) = \begin{cases} \dfrac{x^2 - 4}{x - 2} & \text{if } x < 2 \\ ax^2 - bx + 3 & \text{if } 2 \leqslant x < 3 \\ 2x - a + b & \text{if } x \geqslant 3 \end{cases}$$

Present neatly. Justify for full credit. No Calculators.

Name _____   Score _____   ~15 minutes / F

1. Show that the equation has at least one root in the given interval.
$$x^4 + x - 3 = 0, \quad (1, 2)$$

2.

Is there a number that is exactly 1 more than its cube?