

1. [8 points] For both parts of this question, please leave your answers in **exact form** and show **all** your work.

a. [3 points] Find all values of w satisfying the following equation.

$$\ln(10w + 3) = 8.$$

$$w = \underline{\hspace{10cm}}.$$

b. [5 points] Find all values of x with $-2 \leq x \leq 1$ satisfying the following equation.

$$4 \tan\left(\frac{2\pi}{3}x\right) = 5.$$

$$x = \underline{\hspace{10cm}}.$$