QUIZ 8 - MATH 111   Friday, November 1
YOUR NAME:_____   George Voutsadakis

Read each problem **very carefully** before starting to solve it and do only what is asked. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. [4 points] Solve by hand the rational inequality

$$\frac{(2x+1)(x-3)}{(x+2)^2(7-x)} \leq 0.$$

Please leave your answer in interval notation.

2. [4 points] Suppose that y varies directly with the cube root of x and inversely with the fifth power of z. If $x = 125$ and $z = 2$, then $y = \dfrac{5}{4}$. Find the joint variation relation.

3. [4 points] An exponential function passes though the points $\left(-2, \dfrac{125}{4}\right)$ and $\left(3, \dfrac{8}{25}\right)$. Find, working by hand (without using decimals), an equation for $y = f(x)$.