QUIZ 1 - MATH 112

YOUR NAME:_____

Tuesday, January 26

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Read each problem **very carefully** before starting to solve it. 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. (a) Write in interval notation the set $\{x : -3 < x \leq 17\}$.

   (b) Graph the interval $[3, 8)$.

   (c) Compute (always compute exactly leaving answer in fraction form) $\left(\dfrac{125}{8}\right)^{-2/3}$.

   (d) Simplify $\dfrac{x^{21}}{x^{15}}$.

   (e) Simplify $(x^3)^5$.

2. Write an equation for the line ℓ that passes through $(-5, -2)$ and is perpendicular to the line with equation $2y + x = 8$. (Show all your steps with short explanations and, please, do this even if you are not explicitly asked to, to make your work more accessible to the reader.)