Quiz one , Math 330, Fall 2014

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QUESTION 1. Euclidean Axioms are five. State them clearly.

QUESTION 2. For all questions below, illustrate your constructions by clear diagrams and state only crucial statements in the construction.

(i) Draw a line segment, say $\overline{AB}$. Divide $\overline{AB}$ into two line segments , say S_1, S_2 such that $|S_2| = 2.5|S_1|$. Briefly Justify your work, i.e., tell me why it is true.

(ii) Draw three lines segments say $\overline{AB}$, and $\overline{CD}$, $\overline{MN}$ such that $|MN| < |CD|$. Construct a line segment, $\overline{KL}$, such that $|CD||KL| = |AB||MN|$. Only unmarked ruler and a compass are allowed in the construction. Briefly Justify your work, i.e., tell me why it is true.

(iii) Draw a line segment, say $\overline{AB}$. Locate the golden-cut point on $\overline{AB}$.

(iv) construct the first 4 arcs of a golden spiral.

(v) construct a regular 5-gon (Pentagon).

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