

Assignment 3

Show all your work

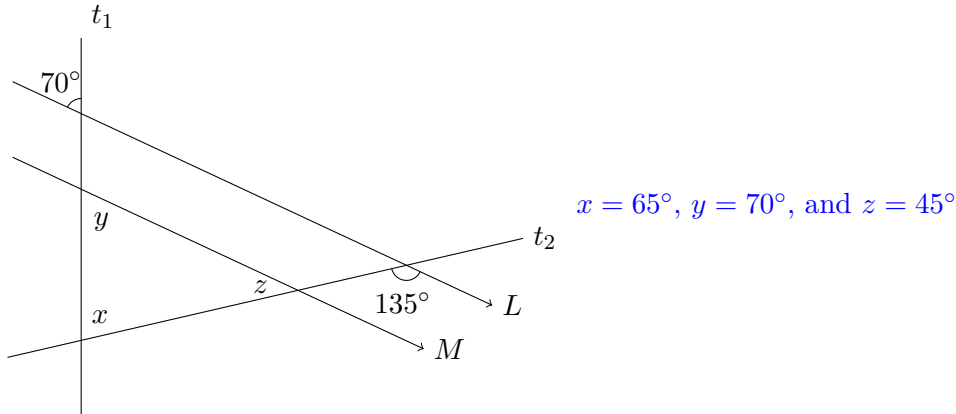
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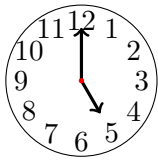
Score: ____/8

Problem 1: Lines L and M are parallel with transversals t_1 and t_2 . Given two angles 70° and 135° as shown in the diagram, find the interior angles $\angle x$, $\angle y$, and $\angle z$ in the small triangle.



Score: ____/3

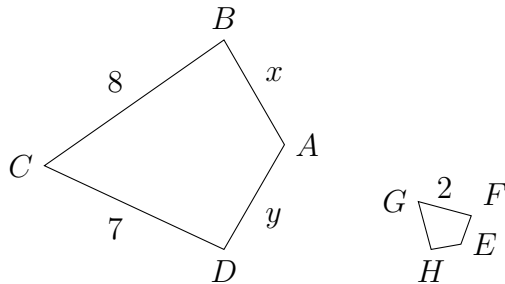
Problem 2: Find the smaller angle formed by the hour hand and the minute hand at five o'clock on a twelve-hour analogue clock. Show your work.



Since 360° is one full round of the circle, each hour covers $360^\circ/12 = 30^\circ$. So the smaller angle is $5 \times 30^\circ = 150^\circ$.

Score: ____/2

Problem 3: Given two similar quadrilaterals: quadrilateral $ABCD$ is similar to quadrilateral $EFGH$, find x and y given that $\overline{FE} = 1/2$, and $\overline{HE} = 3/5$.



Since quadrilateral $ABCD$ is similar to quadrilateral $EFGH$, $\overline{AB}/8 = \overline{EF}/2$, or the smaller quadrilateral is one quarter in side lengths than the larger one. Since $\overline{FE} = 1/2$, $\overline{AB} = 4 = x \times 1/2 = 2$. Similarly $y = 3/5 \times 4 = 12/5 = 2.4$.

Score: ____/3