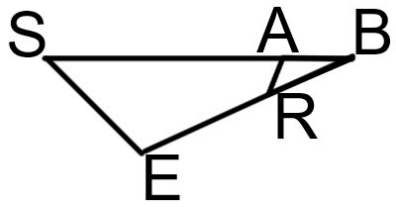
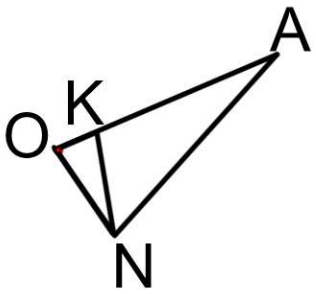
Name _____ Date _____
Mr. Schlansky Geometry

Overlapping Similar Triangles

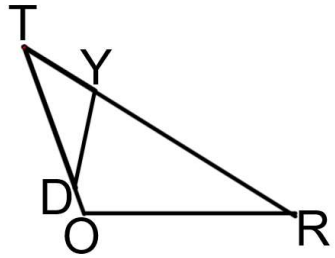
1. In triangle *SEB*, *A* is on $\overline{SB}$, and *E* is on $\overline{EB}$ so that $\angle E \cong \angle BAR$.
If $\overline{SB} = 6$, $\overline{RB} = 2$, and $\overline{SE} = 3$, find $\overline{RA}$.



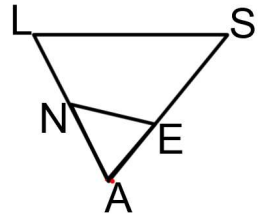
2. In triangle *AON*, *K* is on $\overline{AO}$ so that $\angle A \cong \angle ONK$.
If $\overline{ON} = 6$ and $\overline{OA} = 9$, find $\overline{OK}$.



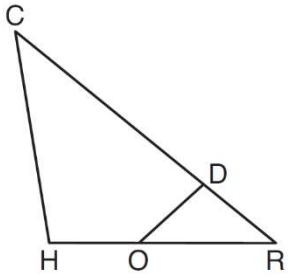
3. In triangle *TOR*, *Y* is on $\overline{TR}$, and *D* is on $\overline{TO}$ so that $\angle TYD \cong \angle ROT$.
If $\overline{TY} = 2$, $\overline{YR} = 6$, and $\overline{TD} = 4$, find $\overline{TO}$.



4. In triangle *SAL*, *N* is on $\overline{LA}$, and *E* is on $\overline{AS}$ so that $\angle AEN \cong \angle L$.
If $\overline{AE} = 6$, $\overline{ES} = 12$, and $\overline{ES} \cong \overline{AL}$, find $\overline{NL}$.



5. In triangle *CHR*, *O* is on $\overline{HR}$, and *D* is on $\overline{CR}$ so that $\angle H \cong RDO$.
If $RD = 4$, $RO = 6$, and $OH = 4$, what is the length of $\overline{CD}$?



6. In $\triangle SCU$ shown below, points *T* and *O* are on $\overline{SU}$ and $\overline{CU}$, respectively. Segment *OT* is drawn so that $\angle C \cong \angle OTU$.
If $TU = 4$, $OU = 5$, and $OC = 7$, what is the length of $\overline{ST}$?