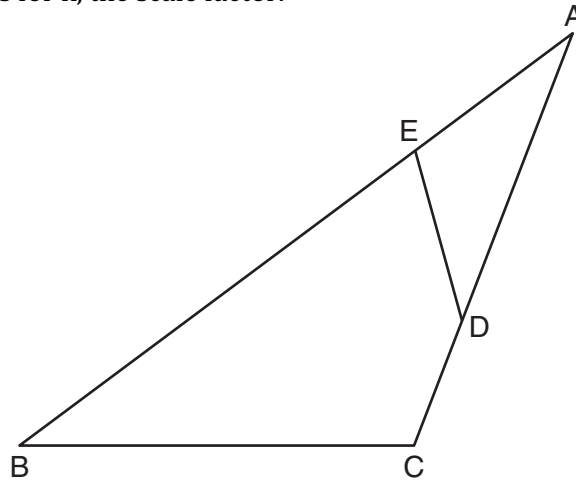


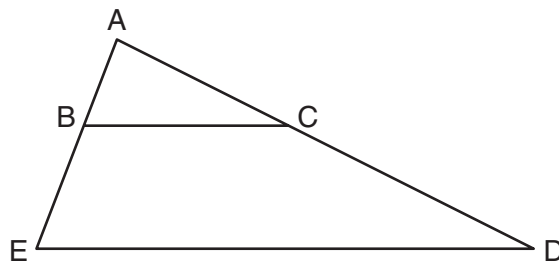
1.

The diagram below shows $\triangle ABC$, with \overline{AEB} , \overline{ADC} , and $\angle ACB \cong \angle AED$.
Write down what triangles are similar. List the segment mappings and three ratios for k , the scale factor.



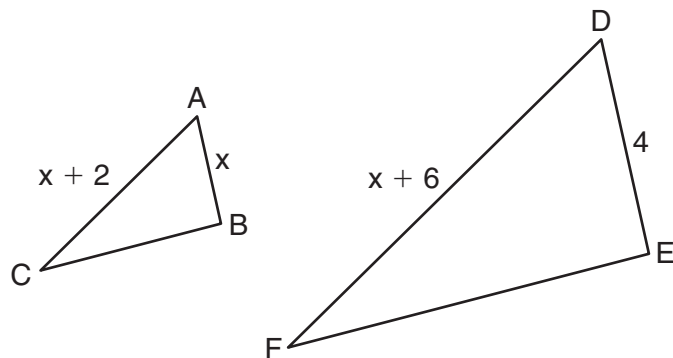
2.

In the diagram below of $\triangle ADE$, B is a point on \overline{AE} and C is a point on \overline{AD} such that $\overline{BC} \parallel \overline{ED}$, $AC = x - 3$, $BE = 20$, $AB = 16$, and $AD = 2x + 2$. Find the length of \overline{AC} .



3.

In the diagram below, $\triangle ABC \sim \triangle DEF$, $DE = 4$, $AB = x$, $AC = x + 2$, and $DF = x + 6$. Determine the length of \overline{AB} . [Only an algebraic solution can receive full credit.]



The diagram below shows $\triangle ABC$, with \overline{AEB} , \overline{ADC} , and $\angle ACB \cong \angle AED$. Prove that $\triangle ABC$ is similar to $\triangle ADE$.

