105. Dilation: scaling factor $\frac{4}{3}$, center $P$ (other centers are possible)  
Isometry: translation taking $P$ to $P'$

107. Dilation: scaling factor $\frac{4}{3}$, center one of the vertices of the left triangle (other centers are possible)  
Isometry: rotation, translation, reflection

108. (i) Contraction  
(ii) $\frac{2}{7}$  
(answers will vary a little)  
(iii)

115. Approximately $\frac{5}{8}$ (answer will vary a little – taking an average of several measured values is fine)

117. The scaling factor is $k = \frac{2}{3}$.  
$z(A'B') = \frac{2}{3} \cdot 8 = 12$,  
$z(B'C') = \frac{2}{3} \cdot 10 = 15$,  
$z(C'A') = \frac{2}{3} \cdot 12 = 16$

121. If the two triangles were similar, then by Theorem 116, the corresponding sides would be proportional, that is, $\frac{a}{b} = \frac{b}{c} = \frac{c}{a}$. These values are:  
\[
\frac{51}{48} = 1.0625 \quad \frac{85}{80} = 1.0625 \quad \frac{121}{112} = 1.0803571...
\]
Since one of these values is different from the other two, the triangles cannot be similar.

131. By Thm 118,
\[
\frac{25}{65} = \frac{130}{x} \quad \text{so} \quad x = \frac{25 \cdot 65}{130} = 8.450
\]
\[
\text{Answer: 338 feet}
\]

*Note that the ratio $\frac{25}{65}$ is unitless, so we did not need to convert from inches to feet. If we did, then the ratio would be the same:
\[
\frac{25 \text{ in}}{65 \text{ in}} \cdot \frac{1 \text{ ft}}{12 \text{ in}} = \frac{25}{65} \text{ feet} = \frac{25}{65}
\]