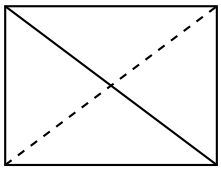
9.5 Do Now: Angle relationships

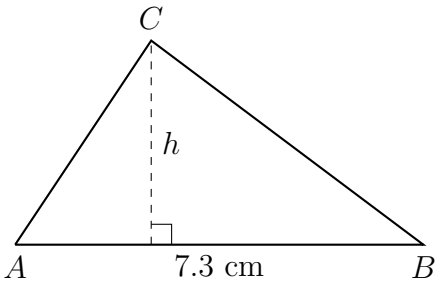
1. The figure shows a rectangle (not a square).



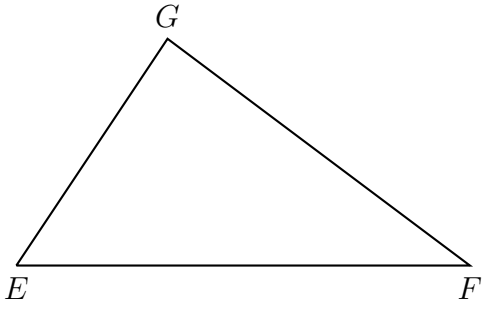
Which transformations carries the rectangle onto itself? Mark each True or False.

(a) A clockwise rotation of 90° about the intersection of the diagonals True False
(b) A clockwise rotation of 180° about the intersection of the diagonals True False
(c) A reflection over the solid diagonal True False
(d) A reflection over the dashed diagonal True False

2. Find the area of $\triangle ABC$, $Area = \frac{1}{2}bh$. The altitude h of the triangle is 4 centimeters and the base $AB = 7.3$ cm.



3. Given $\triangle EFG$ with $m\angle E = (10x)°$, $m\angle F = 40°$ and $m\angle G = (6x + 60)°$, find x.



4. In the diagram below, the chords $\overline{AE}$ and $\overline{BD}$ intersect at C, with $m\angle ACB = 5x - 5$, $m\angle DCE = 4x + 11$.

   (a) Justify $\angle ACB \cong \angle DCE$.

   (b) Find x.

   (c) Given that the measure of the arc $AFD = 140°$. Find $m\angle E$. Find $m\angle B$.

   (d) Find $m\angle D$.

   (e) Find the measure of the arc BE.