

7.8 Homework: Right triangle ratios, constructions

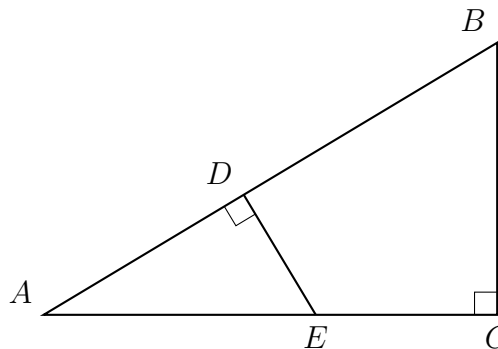
1. In $\triangle ABC$ shown below, $\angle ACB$ is a right angle, E is a point on \overline{AC} , and \overline{ED} is drawn perpendicular to hypotenuse \overline{AB} . Given $\triangle ABC \sim \triangle AED$.

(a) Justify $\angle BAC \cong \angle EAD$.

(b) $\angle B \rightarrow$ _____

(c) $\overline{AC} \rightarrow$ _____

(d) $DE = k \times$ _____



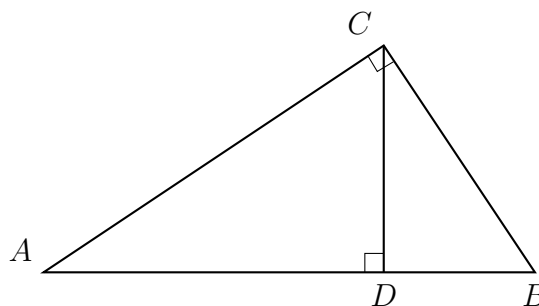
2. In $\triangle ABC$ shown below, $\angle ACB$ is a right angle, and $\overline{CD} \perp \overline{AB}$.

(a) Name three similar triangles (ordering the letters in proper correspondence).

(b) T F $\frac{BD}{BC} = \frac{CD}{AC}$

(c) T F $\frac{AB}{AC} = \frac{BC}{AD}$

(d) T F $AD \times BD = CD \times CD$

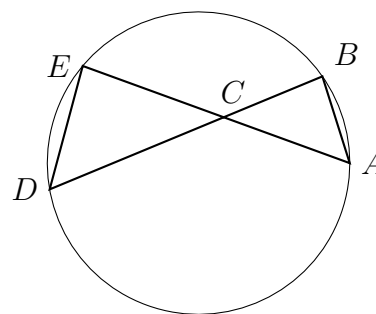


3. In the diagram below, the chords \overline{AE} and \overline{BD} intersect at C .

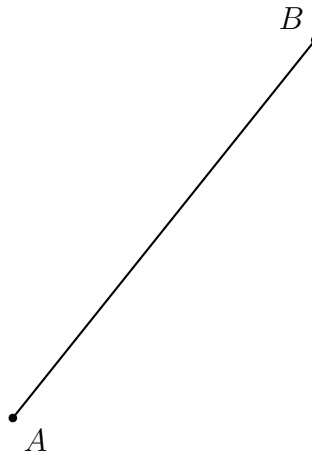
(a) What angle corresponds with $\angle E$?

(b) T F $\frac{CE}{BC} = \frac{CD}{AC}$

(c) T F $AC \times CE = BC \times CD$



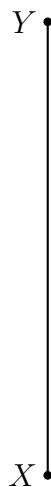
4. Complete the construction of a perpendicular bisector of \overline{AB} . Label the midpoint M . Show all construction marks, but make no extra lines.



5. Accurately draw a square that is 5 centimeters on each side.

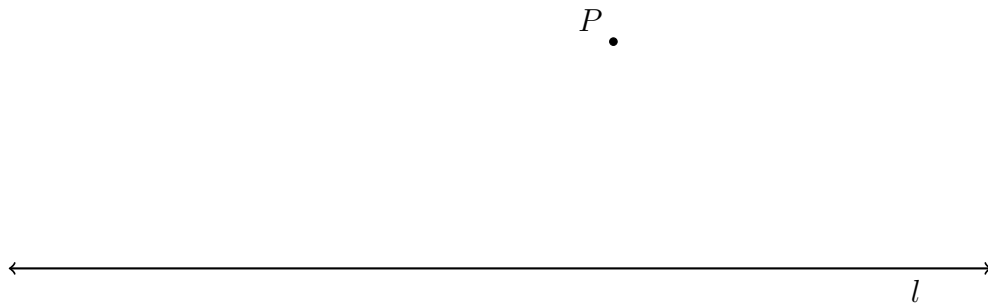
Name:

6. Complete the construction of an equilateral triangle with one side as \overline{XY} . Show all construction marks, but make no extra lines.



- (a) Identify two circles in the construction. For each, name the center of the circle and the radius.
- (b) Assuming that the third vertex of the triangle is point Z , explain why the distance from X to Z is the same as the distance from X to Y .

7. Complete the construction of a line perpendicular to line l through the point P . Show all construction marks, but make no extra lines.



8. The perimeter of a square is 52 cm. Find the area of the square.