

**7-1HW-Similarity-ratios**

1. Given  $\triangle ABC \sim \triangle ADE$  with sides  $AC = 7$ ,  $BC = 4$ ,  $AB = 8$ , and of  $DE = 10$  find the scale factor  $k$  and the lengths  $AD$  and  $AE$ . Then find  $CE$  and  $BD$ .

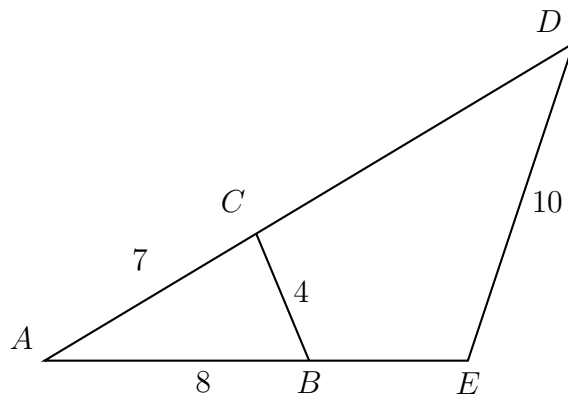
(a)  $k =$

(b)  $AD =$

(c)  $AE =$

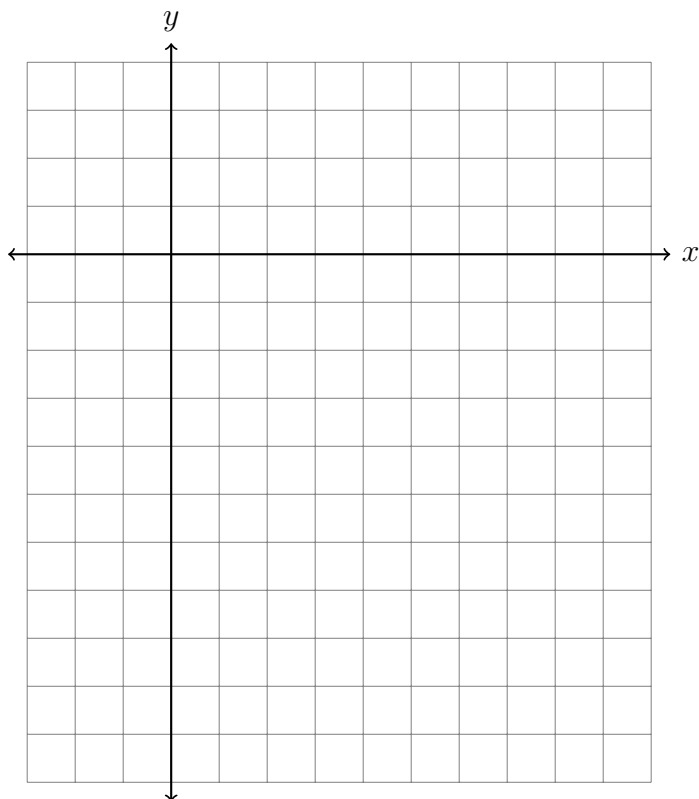
(d)  $CE =$

(e)  $BD =$

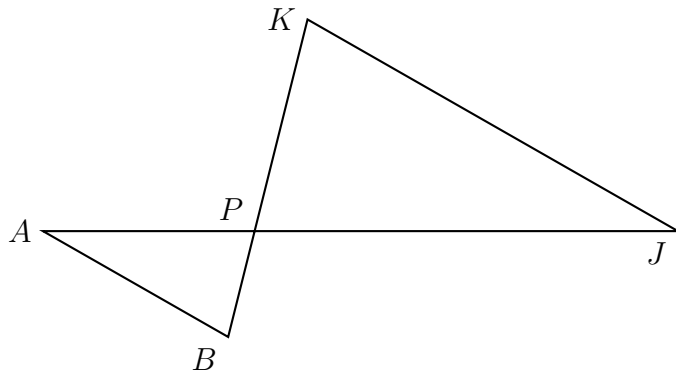


2. After a dilation centered at the origin, the image of  $\overline{AB}$  is  $\overline{A'B'}$ . If the coordinates of the endpoints of these segments are  $A(-1, -3)$ ,  $B(4, -5)$ ,  $A'(-2, -6)$ , and  $B'(8, -10)$ , find the scale factor of the dilation.

Make a table of coordinate pairs and graph the two line segments,  $\overline{AB}$  and  $\overline{A'B'}$ , on the set of axes below.



3. Given  $\triangle ABP \sim \triangle JKP$  as shown below.  $AB = 9.6$ ,  $AP = 12.0$ ,  $BP = 6.3$ , and  $JK = 14.4$ . Find  $JP$ .



4. In the diagram below of  $\triangle ABC$ ,  $D$  is a point on  $\overline{BA}$ ,  $E$  is a point on  $\overline{BC}$ , and  $\overline{DE}$  is drawn. If  $BD = 5$ ,  $DA = 12$ , and  $BE = 7$ , what is the length of  $\overline{BC}$  so that  $\overline{AC} \parallel \overline{DE}$ ?

