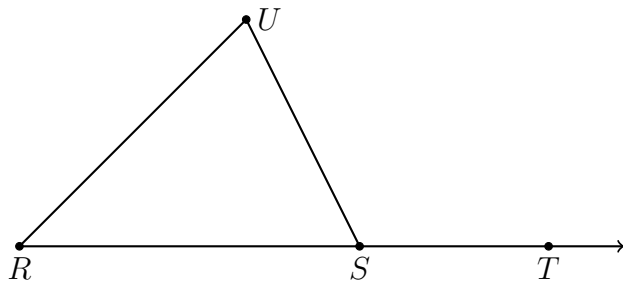


Name:

**13.10 Do Now: Mixed review**

1. Given  $m\angle R = 30$  and  $m\angle U = 70$ . Find  $m\angle UST$ .

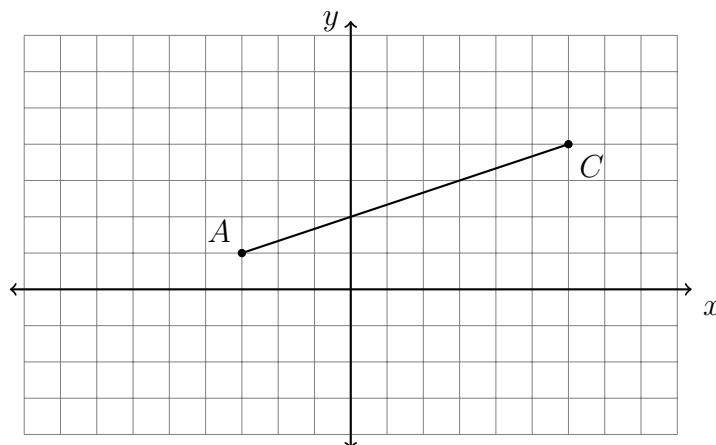


2. Write down the center and radius of each circle.

(a)  $(x + 1)^2 + (y + 3)^2 = 1$

(b)  $x^2 + (y - 4)^2 = 25$

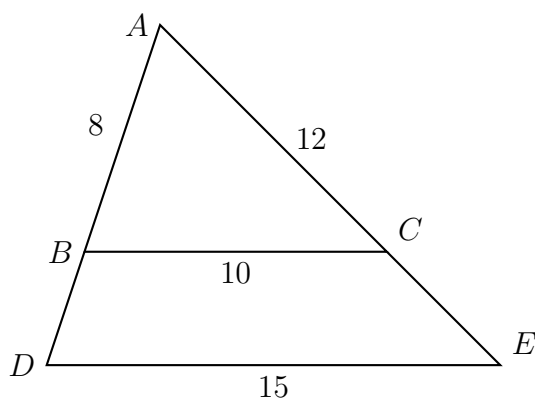
3. In the diagram below,  $\overline{AC}$  has endpoints with coordinates  $A(-3, 1)$  and  $C(6, 4)$ .



If  $B$  is a point on  $\overline{AC}$  and  $AB:BC = 2:1$ , what are the coordinates of  $B$ ?

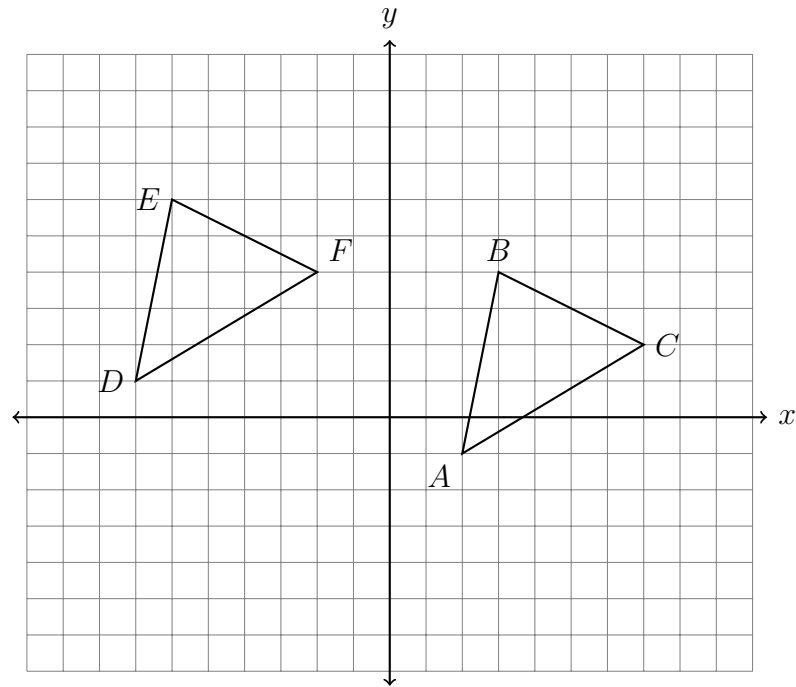
4. Triangle  $ABC$  is dilated with a scale factor of  $k$  centered at  $A$ , yielding  $\triangle ADE$ , as shown. Given  $AB = 8$ ,  $BC = 10$ ,  $AC = 12$ , and  $DE = 15$ .

Find  $BD$ ,  $AE$ , and  $k$  (the scale factor).



5. What transformation maps  $\triangle ABC$  onto  $\triangle DEF$ , shown below? Fully specify the transformation.

Name:



6. Dilate the  $\triangle PQR$  by a factor of 2 centered at  $(4, 2)$ , drawing its image  $\triangle P'Q'R'$  and labeling its vertices.

