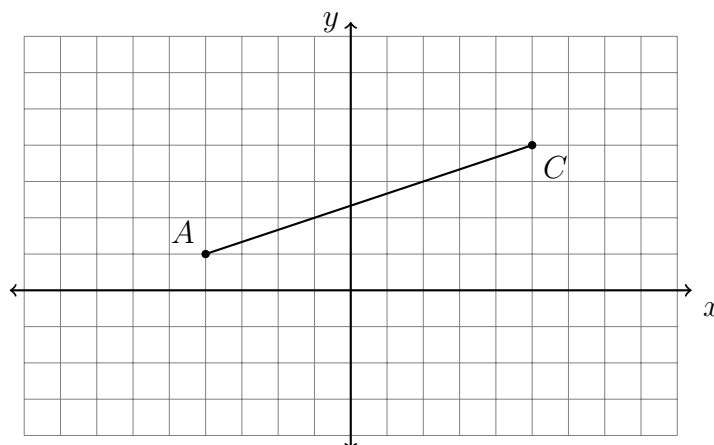


Name:

13.10 Do Now: Mixed review

1. In the diagram below, \overline{AC} has endpoints with coordinates $A(-4, 1)$ and $C(5, 4)$.



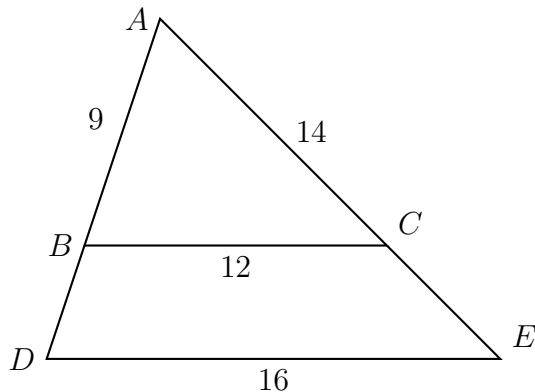
If B is a point on \overline{AC} and $AB:BC = 1:2$, what are the coordinates of B ?

2. The directed line segment \overline{MN} has endpoints $M(-3, -6)$ and $N(2, 4)$. Point P divides \overline{MN} such that $MP:PN$ is $2:3$. What are the coordinates of P ?

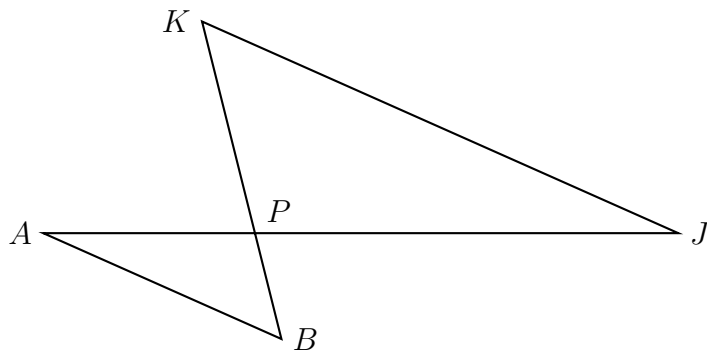
[Use the scrap Regents graph paper to help answer this problem]

3. Triangle ABC is dilated with a scale factor of k centered at A , yielding $\triangle ADE$, as shown. Given $AB = 9$, $BC = 12$, $AC = 14$, and $DE = 16$.

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

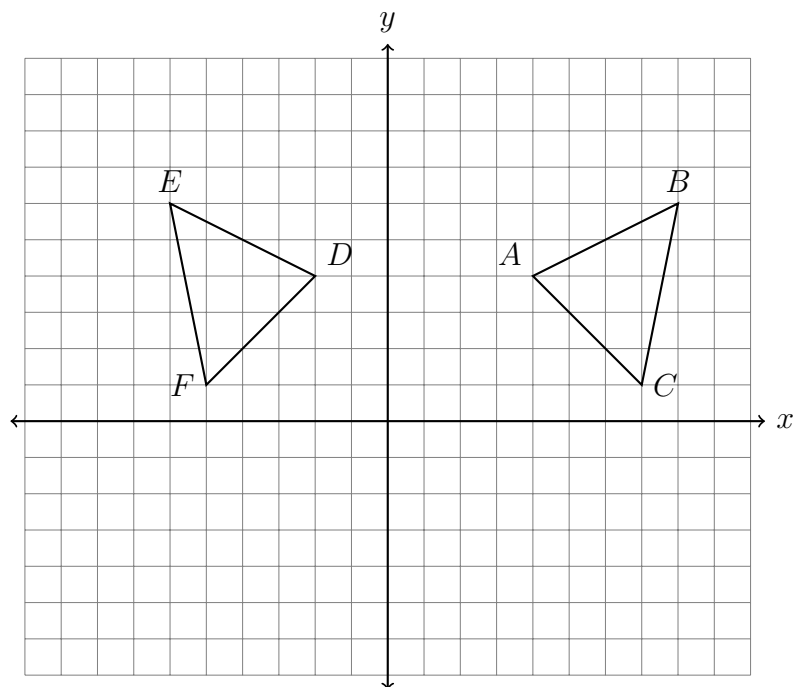


4. Given $\triangle ABP$ and $\triangle JKP$ as shown below. $\overline{AB} \parallel \overline{JK}$. $AP = 5.7$, $JP = 11.4$, and $JK = 14.8$. Find AB .

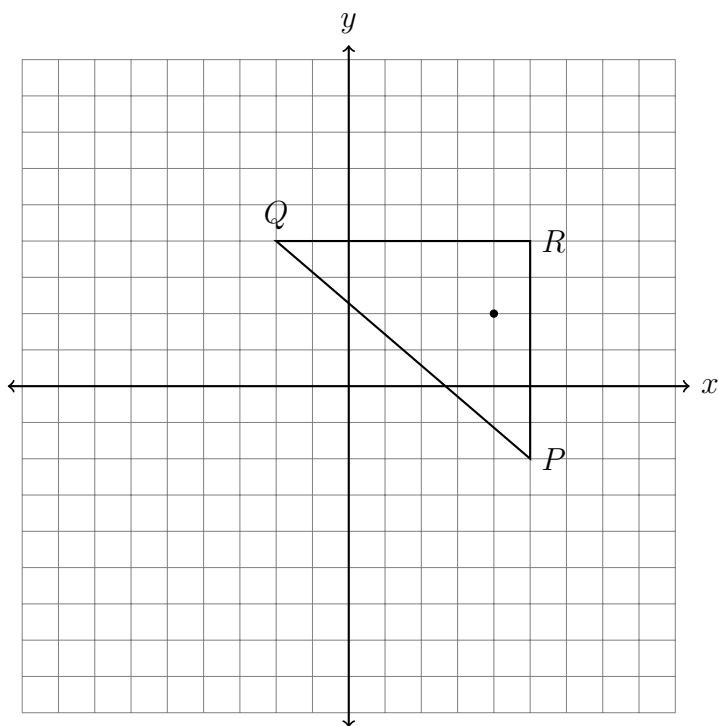


Name:

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



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.



7. Write down the center and radius of the circle represented by $(x + 1)^2 + (y + 3)^2 = 1$.

8. Write down the equation of a circle with radius $r = 4$ and center $(7, -3)$.

9. Which equation represents a circle with radius 4 centered at $(1, -2)$?

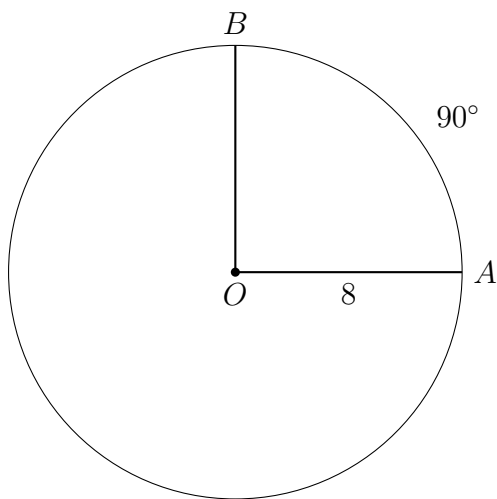
(a) $x^2 + 2x + y^2 - 4y = 9$

(c) $x^2 + 2x + y^2 - 4y = 16$

(b) $x^2 - 2x + y^2 + 4y = 9$

(d) $x^2 - 2x + y^2 + 4y = 16$

10. Circle O has a radius $AO = 8$ cm, as shown below, and arc measure $m\widehat{AB} = 90^\circ$.



(a) Find the $m\angle AOB$.

(b) Find the length of the arc \widehat{AB} to the nearest tenth.

(c) Find the area of the sector AOB to the nearest tenth.