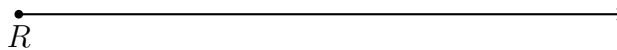
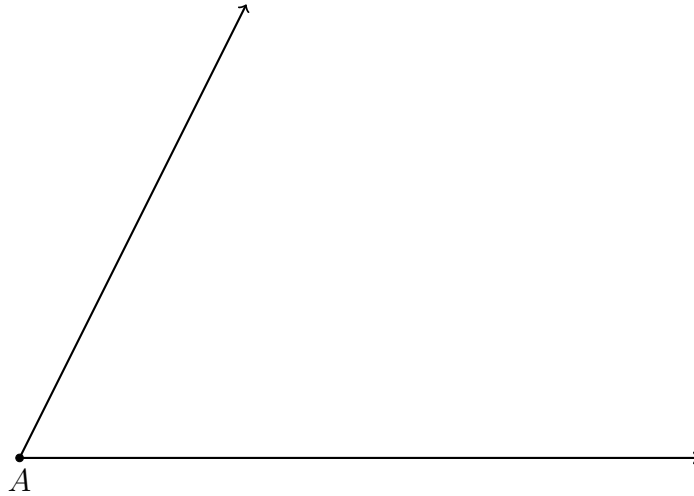


13.5 Do Now: Construction & graphing pre-quiz

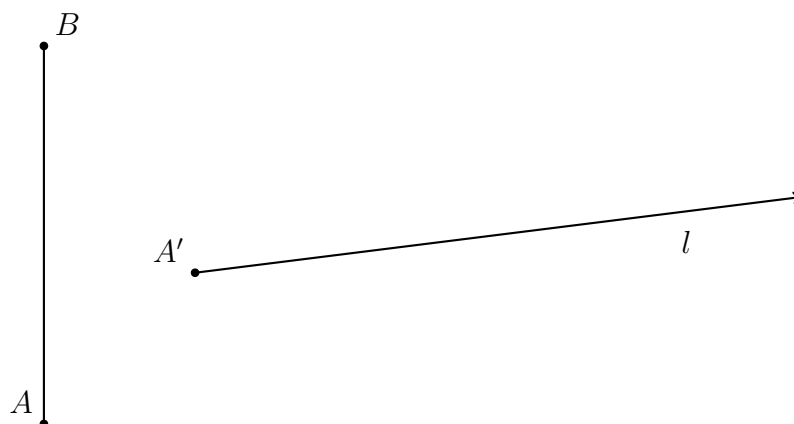
Use only a compass and straightedge for these classical constructions, showing all construction marks.

1. Duplicate a given angle.

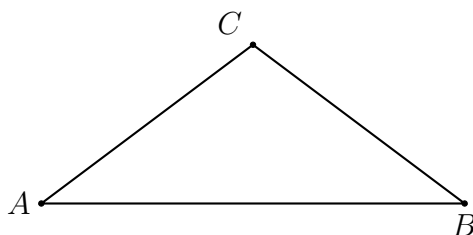
Construct an angle with vertex R and one leg the given ray \vec{R} , congruent to $\angle A$. Show all construction marks.



2. Construct point B' on the ray l such that $\overline{AB} \cong \overline{A'B'}$.



3. (a) Dilate $\triangle ABC$ by a factor of $k = 2$ centered at C .
(hint: extend \overrightarrow{AB} and \overrightarrow{AC} , then duplicate \overline{AB} and \overline{AC} .)



- (b) What is the ratio of the *area* of the dilated triangle to the original area of $\triangle ABC$?
Justify your answer.

Find the slope parallel and slope perpendicular to each linear equation.

4. $y = \frac{3}{4}x - 1$

(a) $m =$

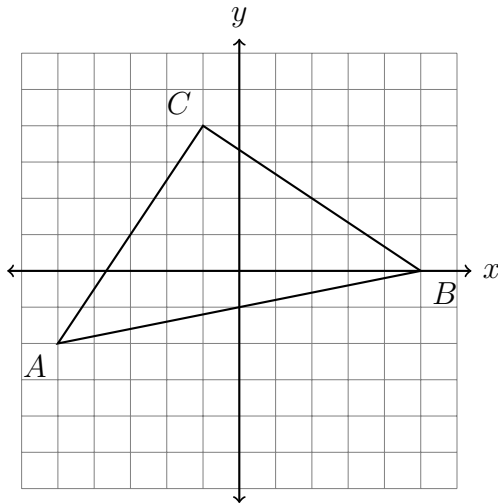
(b) $m_{\perp} =$

5. $4 - 2y = 6x$

(a) $m =$

(b) $m_{\perp} =$

6. Use slopes to prove that $\triangle ABC$ is a right triangle, given $A(-5, -2)$, $B(5, 0)$, and $C(-1, 4)$, as shown below.

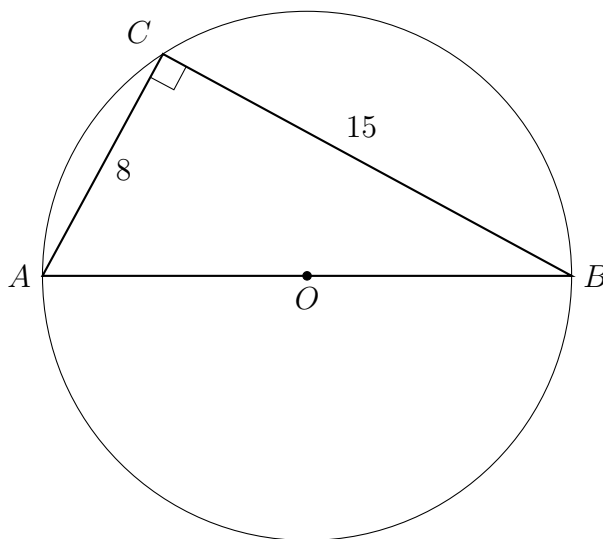


Checklist. Confirm that you...

- Calculated the slopes of \overline{AC} and \overline{BC}
- Showed that $m_{AC} \times m_{BC} = -1$
- Stated that therefore $\overline{AC} \perp \overline{BC}$
- Wrote a concluding statement, that therefore $\triangle ABC$ is a right triangle.

7. Point M divides \overline{AB} so that $AM:MB = 1:2$. If A has coordinates $(-1, -5)$ and B has coordinates $(5, 4)$, what are the coordinates of M ?

8. Triangle ABC is inscribed in the semi-circle centered at O , with $m\angle C = 90^\circ$, as shown. If $AC = 8$ and $BC = 15$, what is the radius of circle O ?

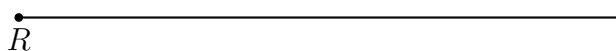
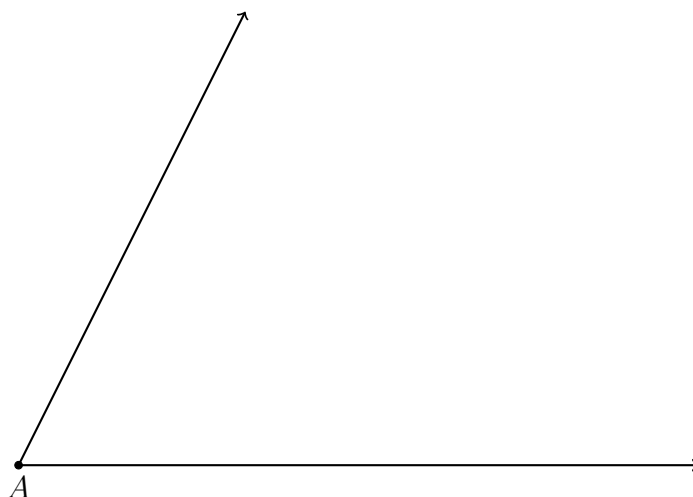


13.5 Exit Note: Construction & graphing quiz

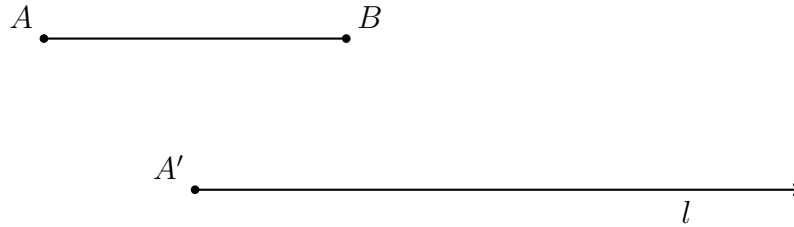
Use only a compass and straightedge for these classical constructions, showing all construction marks.

1. Duplicate a given angle.

Construct an angle with vertex R and one leg the given ray \overrightarrow{R} , congruent to $\angle A$. Show all construction marks.

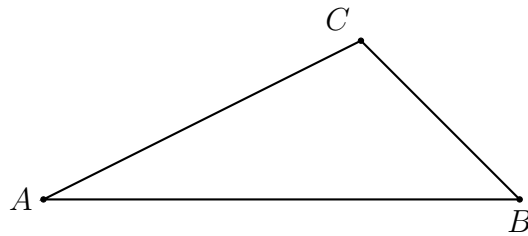


2. Construct point B' on the ray l such that $\overline{AB} \cong \overline{A'B'}$.



3. (a) Dilate $\triangle ABC$ by a factor of $k = 2$ centered at A .

(hint: extend \overrightarrow{AB} and \overrightarrow{AC} , then duplicate \overline{AB} and \overline{AC} .)



- (b) What is the ratio of the *area* of the dilated triangle to the original area of $\triangle ABC$?
Justify your answer.

Find the slope parallel and slope perpendicular to each linear equation.

4. $y = -\frac{2}{3}x + 2$

(a) $m =$

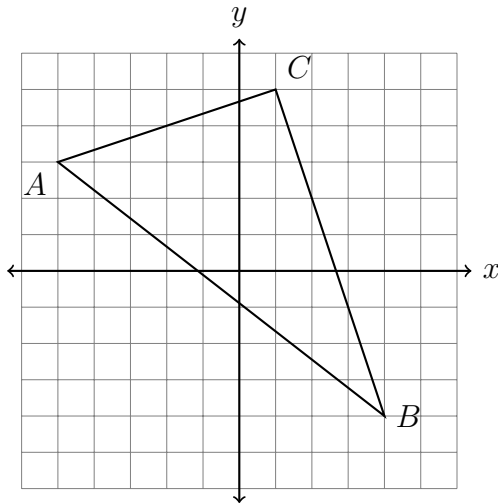
(b) $m_{\perp} =$

5. $3 + 4y = 2x$

(a) $m =$

(b) $m_{\perp} =$

6. Use slopes to prove that $\triangle ABC$ is a right triangle, given $A(-5, 3)$, $B(4, -4)$, and $C(1, 5)$, as shown below.



Checklist. Confirm that you...

- Calculated the slopes of \overline{AC} and \overline{BC}
- Showed that $m_{AC} \times m_{BC} = -1$
- Stated that therefore $\overline{AC} \perp \overline{BC}$
- Wrote a concluding statement, that therefore $\triangle ABC$ is a right triangle.

7. Point M divides \overline{AB} so that $AM:MB = 1:2$. If A has coordinates $(-2, -4)$ and B has coordinates $(7, 8)$, what are the coordinates of M ?

8. Triangle ABC is inscribed in the semi-circle centered at O , with $m\angle C = 90^\circ$, as shown. If $AC = 12$ and $BC = 5$, what is the radius of circle O ?

