

## Geometry Common Core

Week of September 2, 2014

Go to [www.khanacademy.org](http://www.khanacademy.org): (You can sign up for free if you want, but you do not have to sign up to be able to access the videos and practice problems.)

- Under Subjects in the top left, choose Math, then Geometry
- On the right, choose “Geometric constructions” close to the bottom
- Find the group named “Constructing bisectors of lines and angles” Watch the videos and do the practice problems under that group in the order they are there. When you do the practice problems, if you get the first one correct, you move on; if not, you have to get 5 in a row correct.
  - “Constructing a perpendicular bisector using a compass and straightedge” video
  - “Constructing a perpendicular line using a compass and straightedge” video
  - “Constructing an angle bisector using a compass and straightedge” video
  - “Compass constructions 1” practice problems

Complete the following worksheets:

- Line Segment Constructions
- Perpendicular Bisector Constructions
- Angle Constructions

### Line Segment Constructions

**Construct a line segment congruent to each given line segment.**

1)



**Construct a line segment whose length is equal to the sum of the lengths of the given line segments.**

2)



**Construct a line segment whose length is equal to the difference of the lengths of the given line segments.**

3)



**Construct a line segment the given number of times longer than the given segment.**

4)

2 times as long



**Construct a line segment half as long as the given line segment.**

5)



**Divide each line segment into the the number of equal parts specified.**

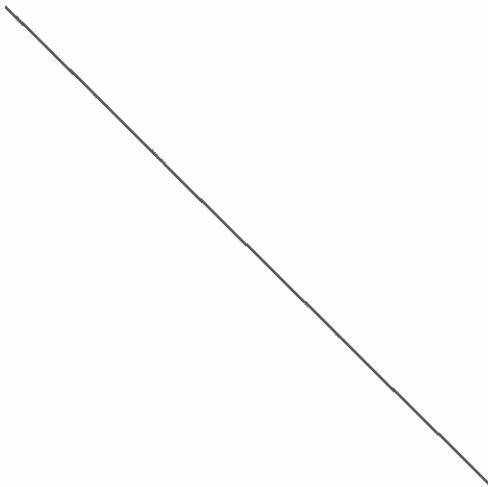
6)

3 equal parts



**Construct the perpendicular bisector of each.**

7)



**Locate the midpoint of each.**

8)



**Construct a line segment perpendicular to the segment given through the point given.**

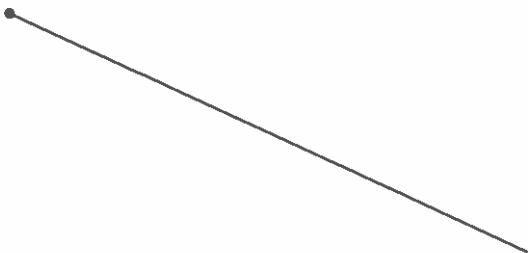
9)



10)



11)



**Construct a line segment through the given point parallel to the given line segment.**

12)



### Perpendicular Bisector Constructions

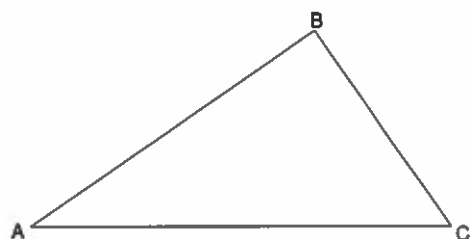
**Construct the perpendicular bisector of each.**

1)



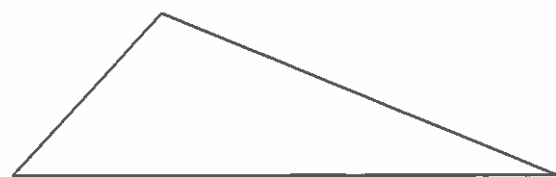
**Construct the perpendicular bisector of side AB of each triangle.**

2)



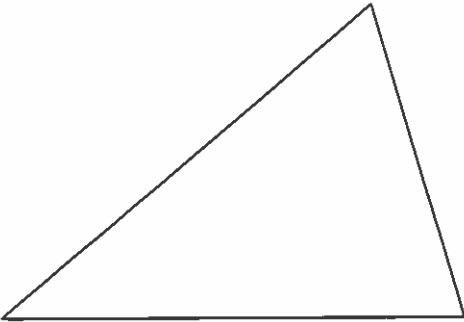
**Locate the circumcenter of each triangle.**

3)



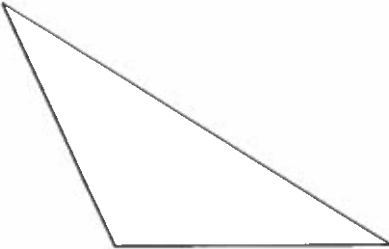
**For each triangle, construct all three perpendicular bisectors to show they are concurrent.**

4)



**Circumscribe a circle about each triangle.**

5)



### Angle Constructions

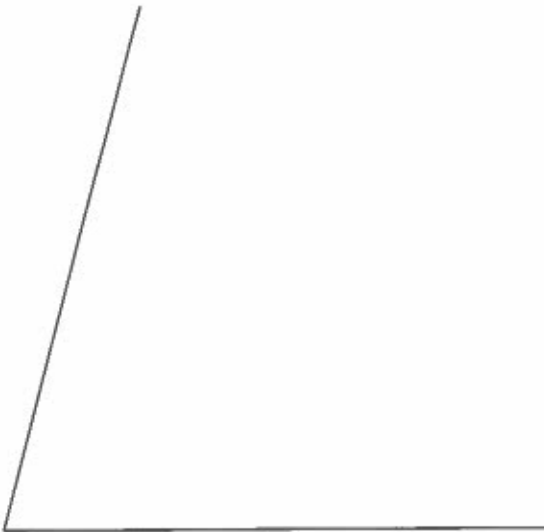
**Construct a copy of each angle given.**

1)



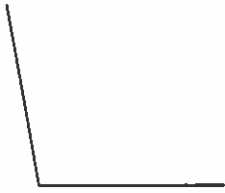
**Construct the bisector of each angle.**

2)



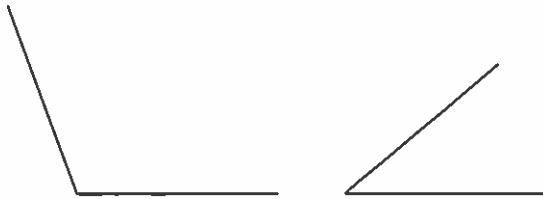
**Construct an angle whose measure is twice that of the angle given.**

3)



**Construct an angle whose measure is equal to the sum of the measures of the angles given.**

4)



**Construct an angle whose measure is equal to the difference of the measures of the angles given.**

5)





**Construct a  $30^\circ$  angle.**

6)

**Construct a  $45^\circ$  angle.**

7)