

11/15 Aim: Constructing perpendicular bisectors on and off lines.

Do now: Take out your construction supplies.

Mathopenref.com

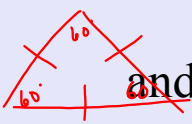
Homework: Worksheet
Quest Wednesday

Nov 2-6:50 AM

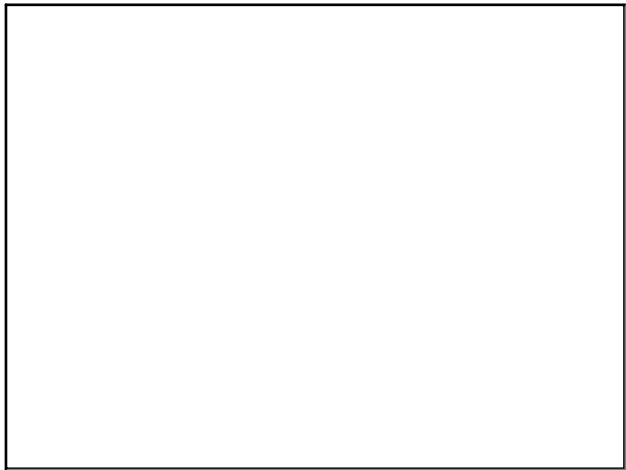
How would you construct an angle of 60 degrees? ^{equilateral} ~~triangle~~

30 degrees? ^{bisect one of the 60s}

and 15 degrees? ^{bisect the bisected 1}



Oct 30-2:59 PM



Nov 14-1:45 PM

Vocabulary

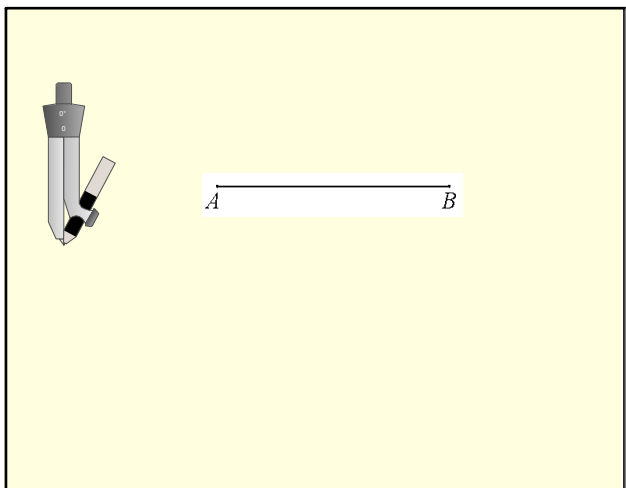
Perpendicular → two lines that intersect to create 4 right angles.

Equidistant → Equal Distance from each other.

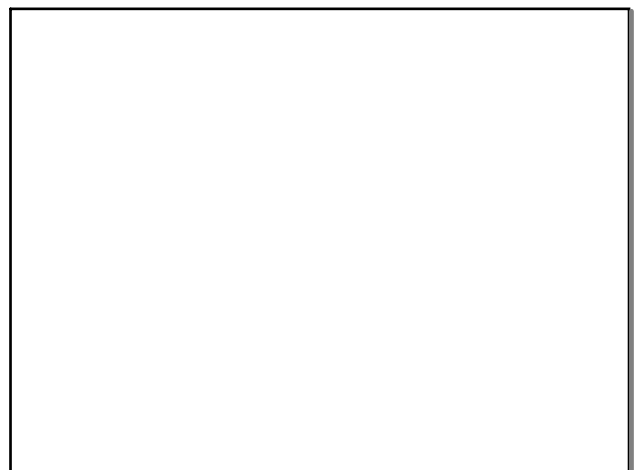
Right angle → 90° angle.

Perpendicular bisector → a segment/line that intersects a segment/line to divide it into 2 \cong segments and create 90° angles

Nov 2-6:53 AM



Nov 2-6:53 AM



Nov 20-11:22 AM

Precisely describe the steps you took to bisect the segment.

Nov 2-6:53 AM

Now that you are familiar with the construction of a perpendicular bisector, we must make one last observation. Using your compass, string, or patty paper, examine the following pairs of segments:

- i. AC, BC ≅
- ii. AD, BD ≅
- iii. AE, BE ≅

Nov 2-6:53 AM

Based on your findings, fill in the observation below.

Observation:

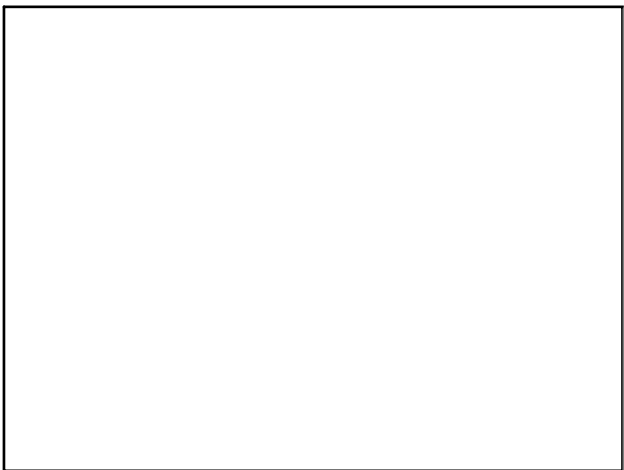
Any point on the perpendicular bisector of a line segment is _____ from the endpoints of the line segment.

Nov 2-6:53 AM

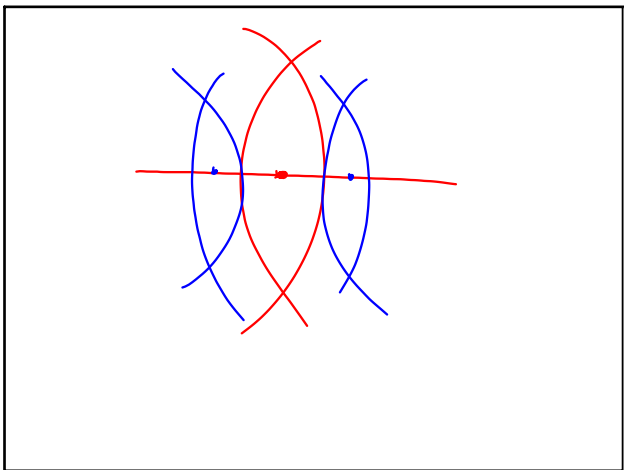
Mathematical Modeling Exercise

You know how to construct the perpendicular bisector of a segment. Now, you will investigate how to construct a perpendicular to a line l from a point A not on l . Think about how you have used circles in constructions so far and *why* the perpendicular bisector construction works the way it does. The first step of the instructions has been provided for you. Discover the construction and write the remaining steps.

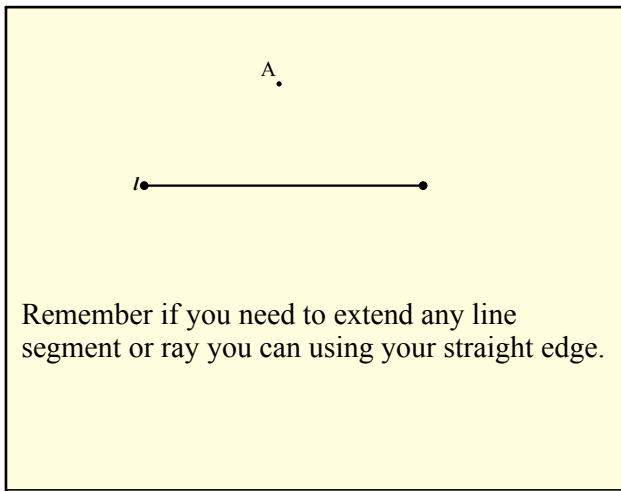
Nov 2-6:53 AM



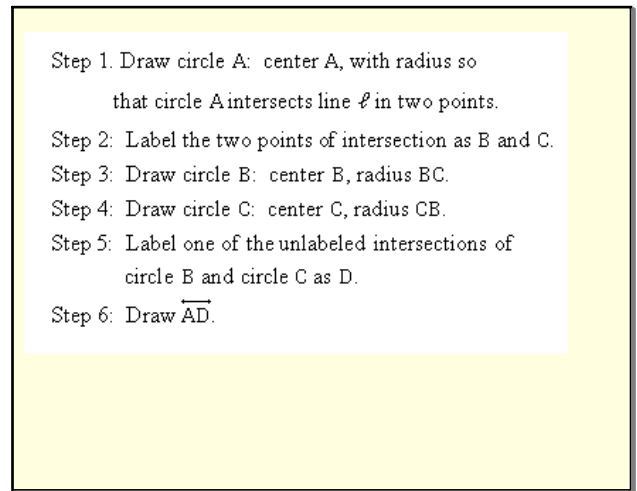
Nov 20-11:32 AM



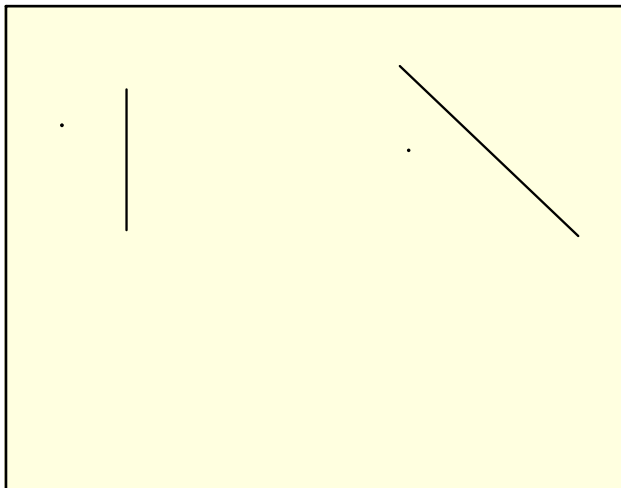
Nov 20-12:00 PM



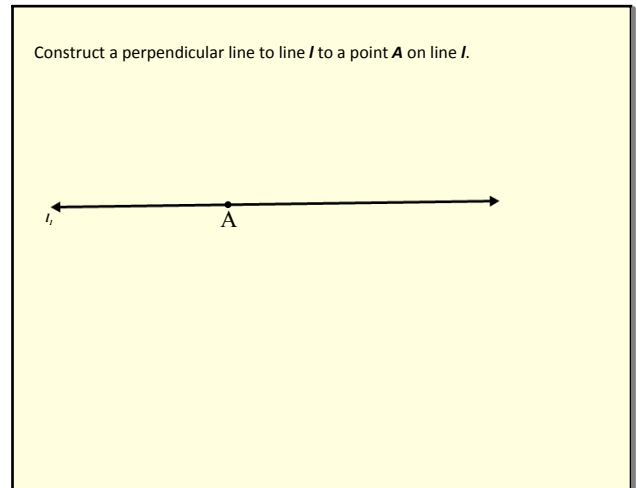
Nov 2-6:53 AM



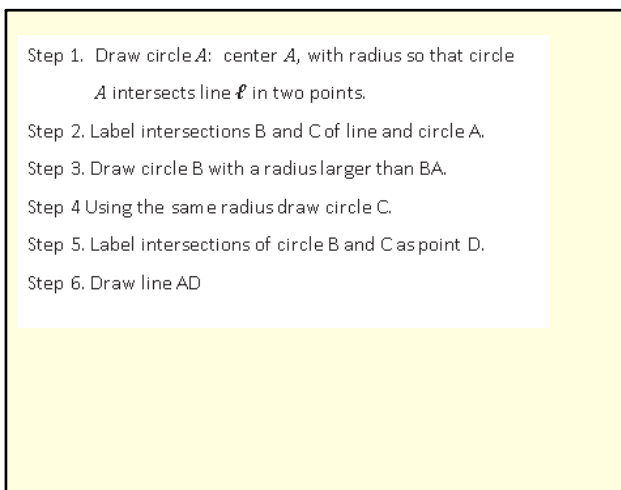
Nov 2-6:53 AM



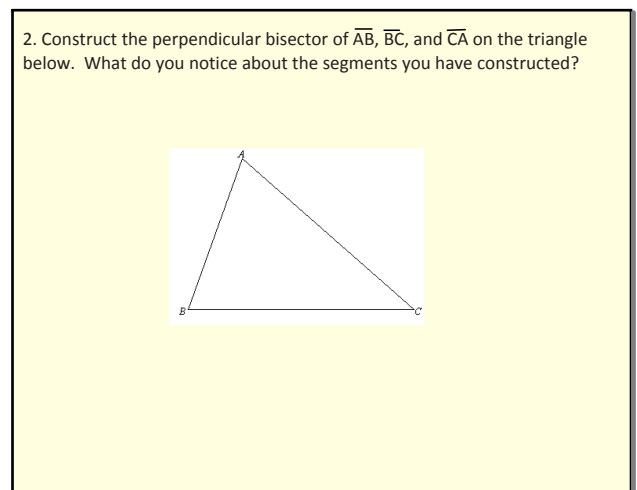
Nov 2-6:53 AM



Nov 2-6:53 AM

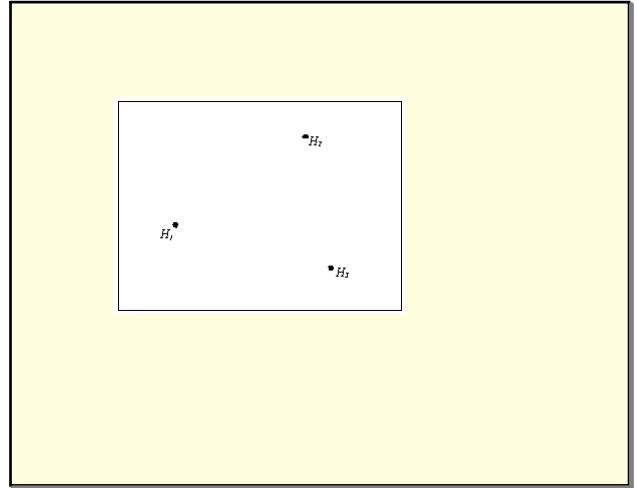
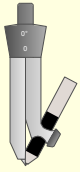


Nov 2-6:53 AM



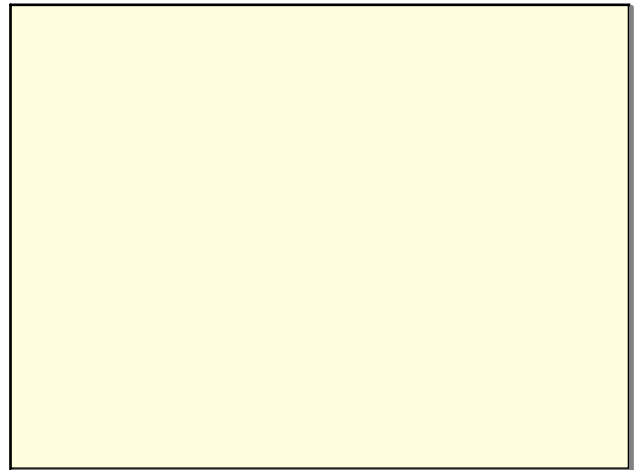
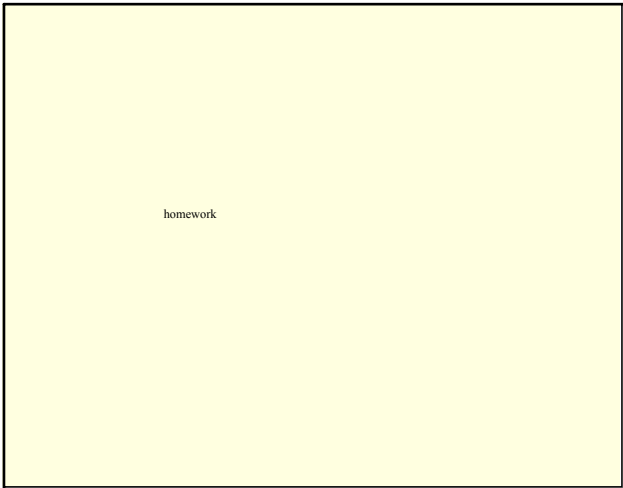
Nov 2-6:53 AM

3. Two homes are built on a plot of land. Both homeowners have dogs and are interested in putting up as much fencing as possible between their homes on the land but in a way that keeps the fence equidistant from each home. Use your construction tools to determine where the fence should go on the plot of land. How must the fencing be altered with the addition of a third home?



Nov 2-6:53 AM

Nov 2-6:53 AM



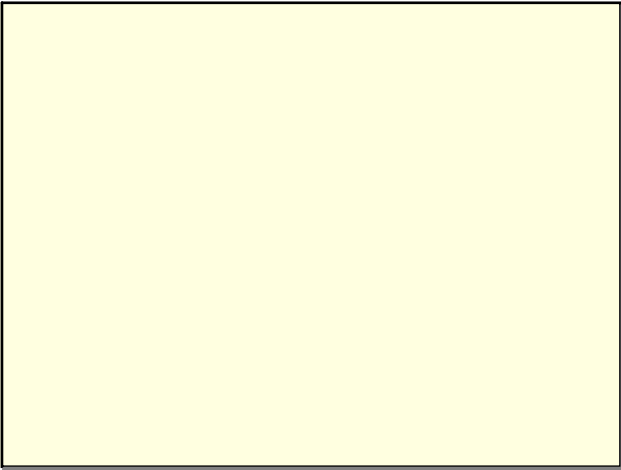
Nov 2-6:53 AM

Nov 2-6:53 AM

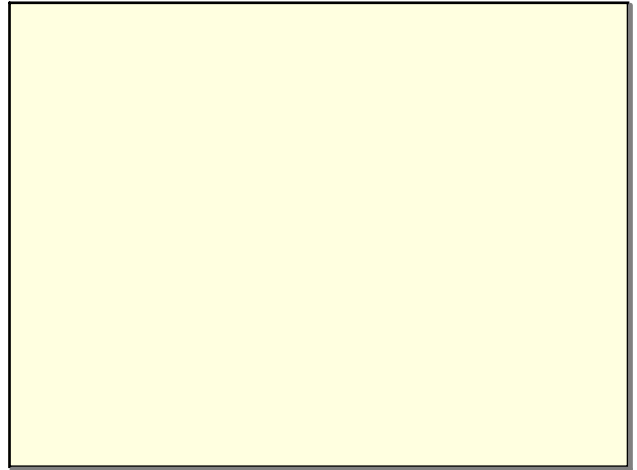


Nov 2-6:53 AM

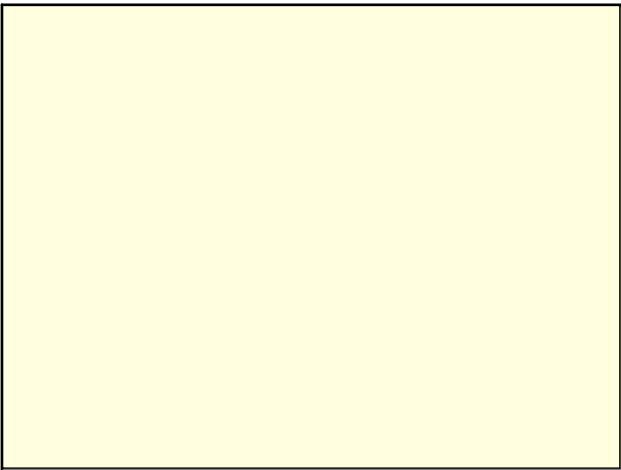
Nov 2-6:53 AM



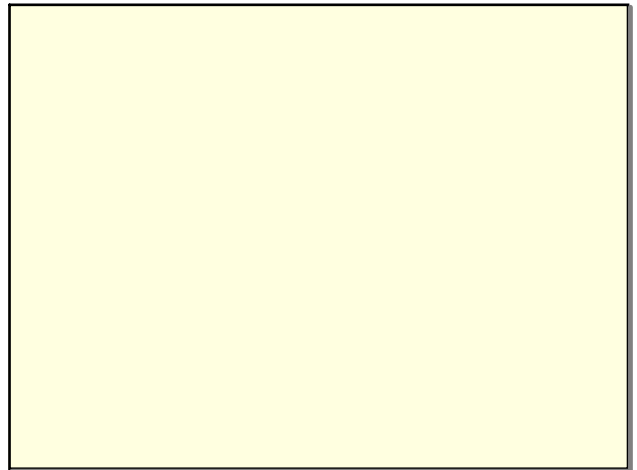
Nov 2-6:53 AM



Nov 2-6:53 AM



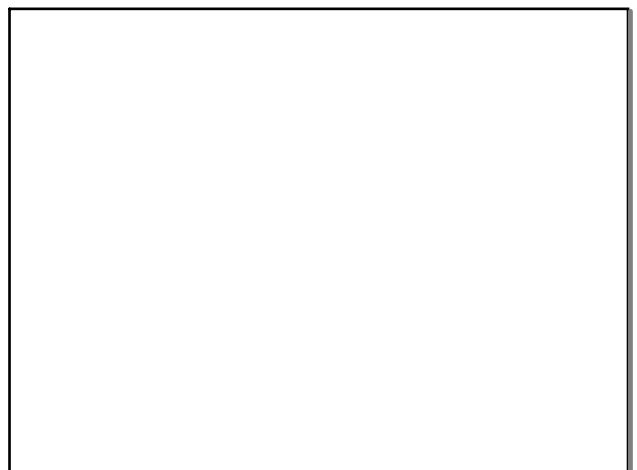
Nov 2-6:53 AM



Nov 2-6:53 AM



Nov 2-6:53 AM



Nov 2-6:53 AM