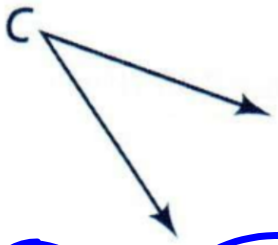
Questions on yesterday's Bell Ringer?

Construct Perpendicular and Angle Bisectors

1. Construct the perpendicular bisector of AB.

No Bell Ringer today!

2. Construct the angle bisector of $\angle C$.



3. Given $f(x) = 3x$ and $g(x) = -4x + 2$. Find $(f \cdot g)(2)$.

$3x(-4x+2) \quad -12x^2 + 6x$

$3(2)(-4(2)+2) \quad -48+12$

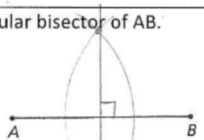
$6(-8+2) \quad = -36$

$6(-6) = -36$

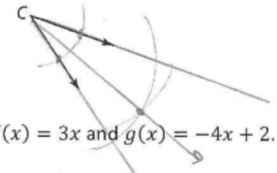
Solutions

Construct Perpendicular and Angle Bisectors

1. Construct the perpendicular bisector of AB.



2. Construct the angle bisector of $\angle C$.



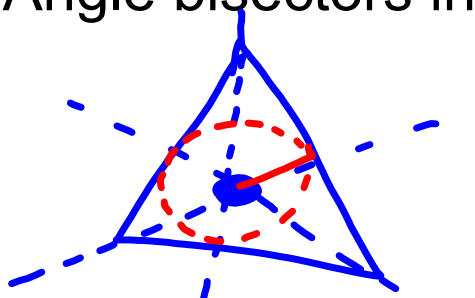
3. Given $f(x) = 3x$ and $g(x) = -4x + 2$. Find $(f \cdot g)(2)$.

$f \cdot g = 3x(-4x+2)$

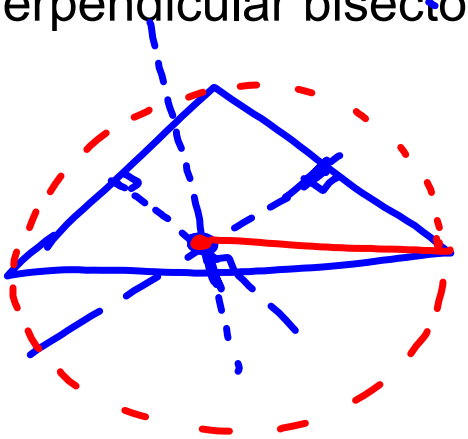
$= -12x^2 + 6x = -12(2)^2 + 6(2) = 12 \cdot 4 + 12 = 48 + 12$

$= \boxed{-36}$

Angle bisectors intersect at the Incenter



Perpendicular bisectors intersect at the Circumcenter



Construct a line perpendicular to the given line that goes through the point that's not on the line

Video

pg 9

Video

pg 10

Perpendicular Lines

Point not on the line

Start: Start with a line and point *C* which is not on that line.

Step 1: Place the compass on the given external point *C*.

Step 2: Set the compass width to approximately 50% more than the distance to the line. The actual width does not matter.

Step 3: Draw an arc across the line on each side of *C*, making sure not to adjust the compass width in between. Label the intersections as *P* and *Q*.

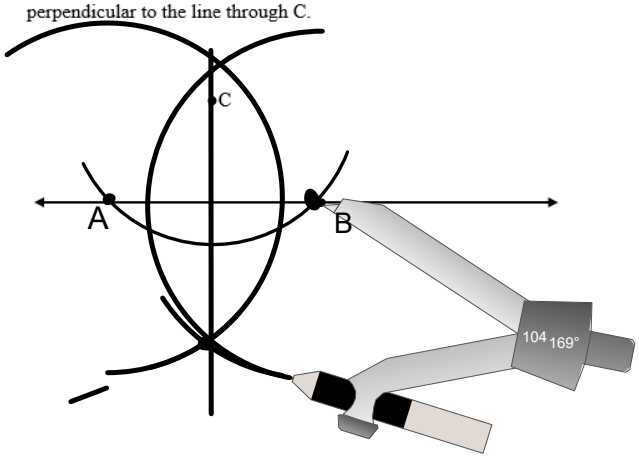
Step 4: At this point, you can adjust the compass width. Recommended: leave it as is.

Step 5: From each point *P* and *Q*, draw an arc below the line so that the arcs cross.

Step 6: Align a straightedge between *C* and the point where the arcs intersect. Draw the perpendicular line from *C* to the line, or beyond if you wish.

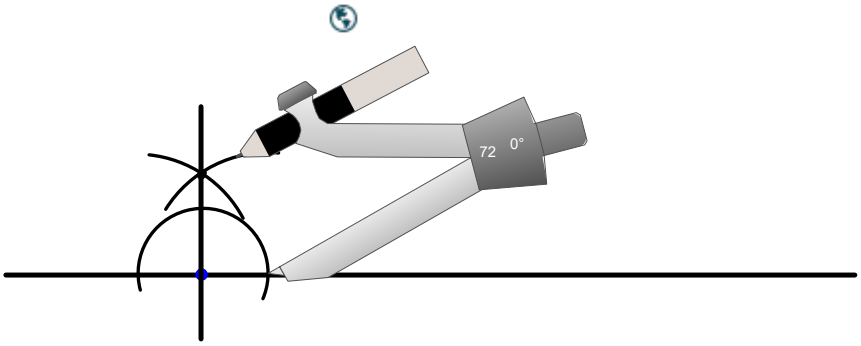
Done: This line is perpendicular to the first line and passes through the point *C*.

Using a straight edge and compass, no measurements, construct a line perpendicular to the line through C.



Construct a line perpendicular to the given line that goes through the point that's on the line

Video



pg 9

Point on the line

Start: Start with a line and point F on that line.

Step 1: Set the compass width to a medium setting. The actual width does not matter.

Step 2: Without changing the compass width, mark a short arc on the line at each side of the point *F*, forming the points *P* and *Q*. These two points are thus the same distance from *F*.

Step 3: Increase the compass to almost double its width (again th exact setting is not important).

Step 4: From *P*, mark off a short arc above *F*.

Step 5: Without changing the compass width repeat from the p so that the two arcs cross each other, creating the point *R*.

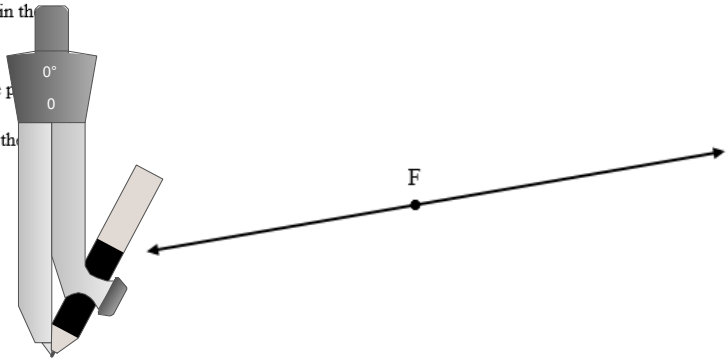
Step 6: Using the straight edge, draw a line from *F* to where th cross.

Done: *FR* just drawn is a perpendicular to *PQ* at *F*.

Video

pg 10

Using a straight edge and compass, no measurements, construct a line perpendicular to the line through F.

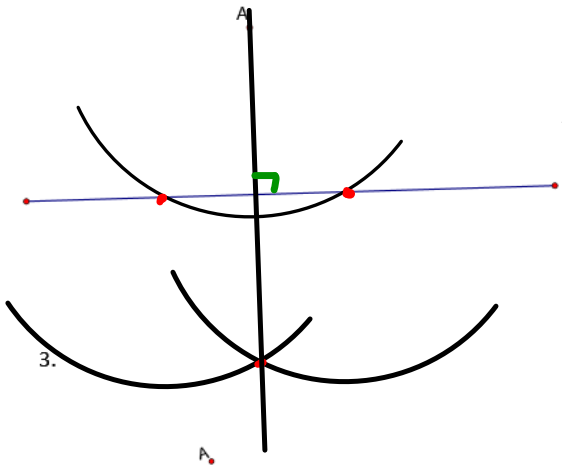


Finish stained glass window ws...!
due Monday

Name_____ Hour_____ **7C Constructing Perpendicular Lines**

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

1.



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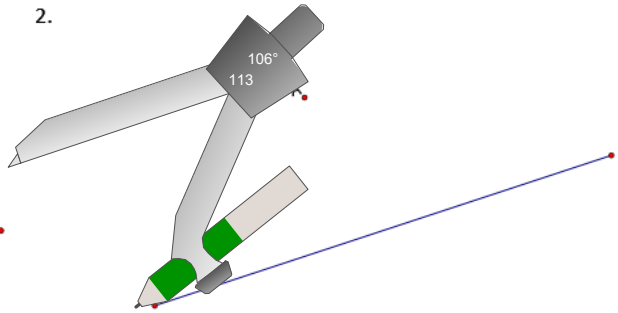

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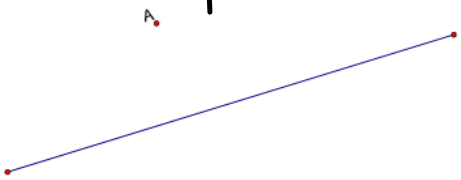

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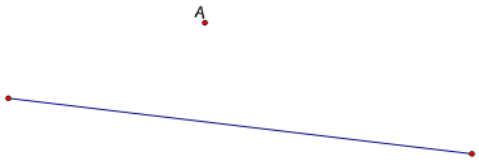

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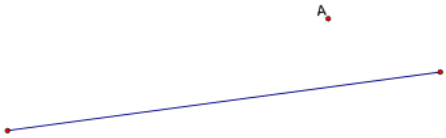

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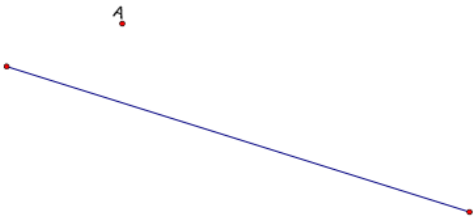

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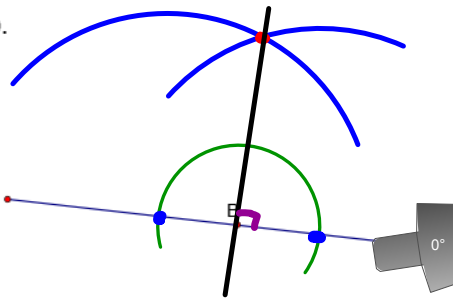

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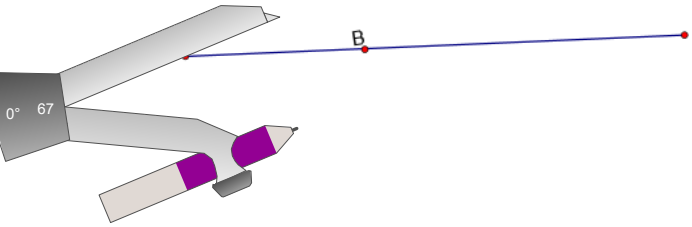

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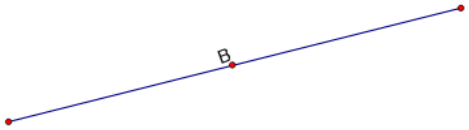

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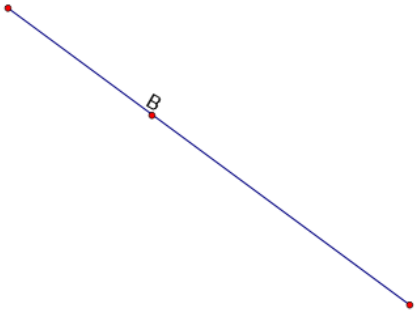

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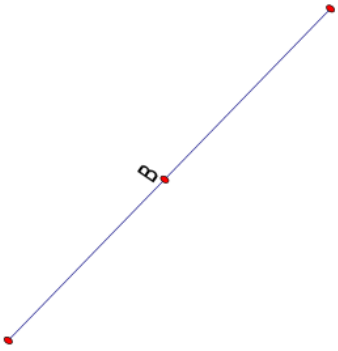

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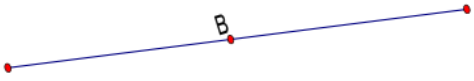

16.