Investigating the medians of a triangle: create CTR1

After turning on your handheld press	Select CabriJr.
APPS	**5**
APPLICATIONS 1:Finance… 2:ALG1CH5 3:ALG1PRT1 4:AreaForm 5:CabriJr 6:CBL/CBR 7↓CelSheet	Cabri Junior Press a key… © CabriLog 2.00 www.cabri.com
Y= scroll to New	**ENTER**
F1 Animate Undo ▶ Help ▶ New Open… Save Save as… Quit	
WINDOW ︿ ︿	**ENTER**
F2 Point ▶ Line Segment Circle Triangle Quad.	
	Now select three points and draw the triangle.

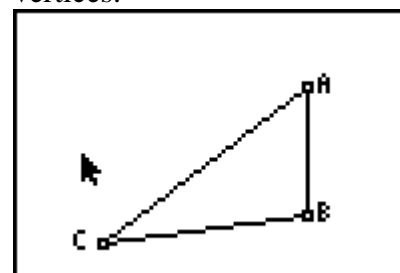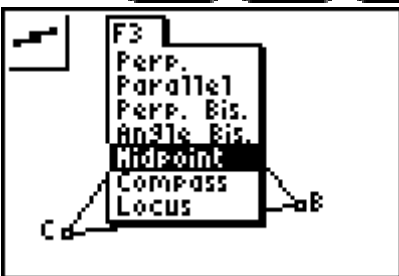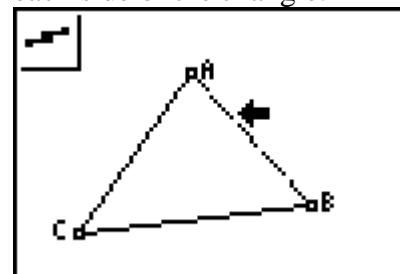|	
Stretch and move your triangle. _[figure: a right triangle with a cursor at the top right vertex]_	Label the vertices A, B, and C GRAPH ⌄ _[figure: screen showing the **A** icon and F5 menu with options: Hide/Show ▶, Alph-Num (highlighted), Display, Measure ▶, Coord. & Eq., Calculate ▶, Clear ▶]_
Move the cursor to a vertex so that the vertex becomes "active" press ENTER to create a text cursor and name the point. _[figure: **A** icon and triangle with "AI" label near top vertex]_	Press **ENTER** and repeat for the other vertices. _[figure: triangle with vertices labeled A (top right), B (right), C (lower left) and a cursor at left]_
ZOOM ⌄ ⌄ ⌄ _[figure: F3 menu with options: Perp., Parallel, Perp. Bis., Angle Bis., Midpoint (highlighted), Compass, Locus; triangle with C and B labels behind menu]_	Press **ENTER** and place the cursor over each side of the triangle. _[figure: triangle with vertices A (top), B (right), C (lower left) and an arrow cursor pointing at the side between A and B]_ Press **ENTER** and find the midpoints of all three sides. Label them L, M and N.
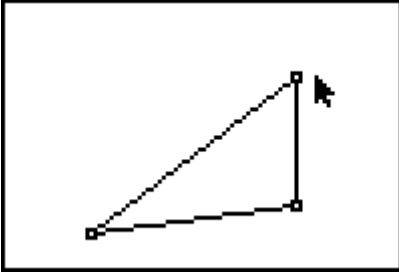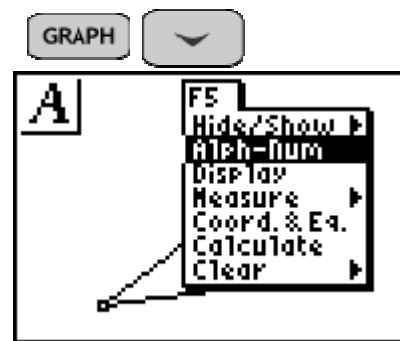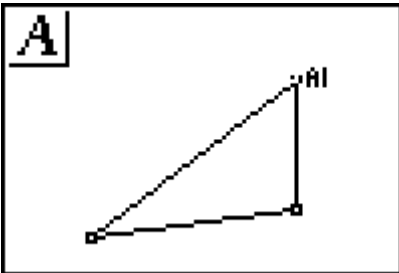
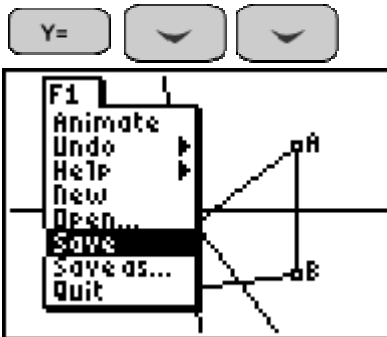| Make sure your labels match these.	Draw $\overline{AM}$, $\overline{BN}$ and $\overline{CL}$
	WINDOW ⌃ ⌃
	F2 / Point ▶ / Line / **Segment** / Circle / Triangle / Quad.
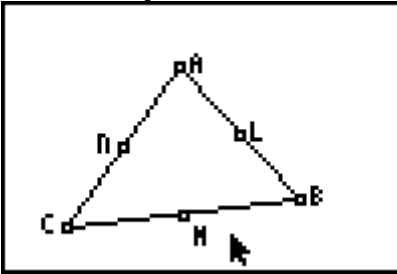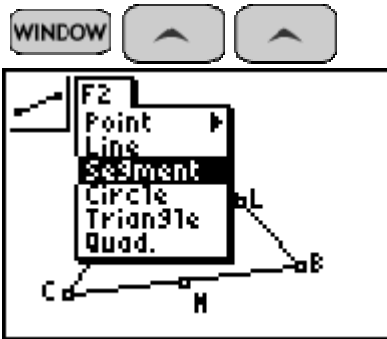
Press **CLEAR** to disable the midpoint tool. The triangle with the three medians drawn:	Save your work: **Y=** ⌄ ⌄
	F1 / Animate / Undo ▶ / Help ▶ / New / Open... / **Save** / Save as... / Quit
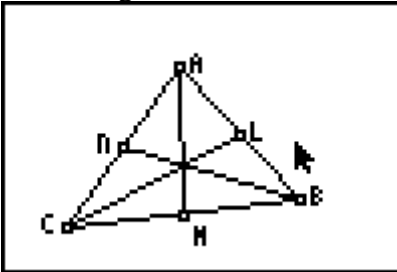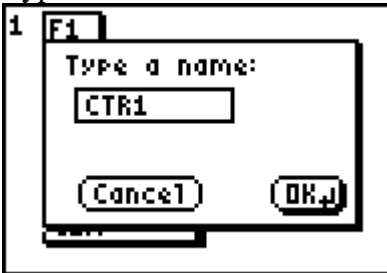
ENTER F1 Type a name: [I] (Cancel) (OK)	Type in CTR1 1 F1 Type a name: [CTR1] (Cancel) (OK) Press **ENTER**

Now select, grab and drag the vertices of the triangle and investigate the results by answering the following questions.

1) What conclusion can you draw about the intersection of the medians?
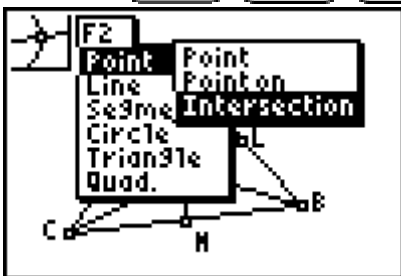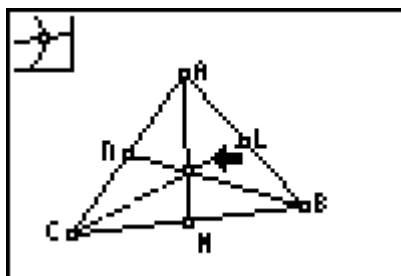
    _____

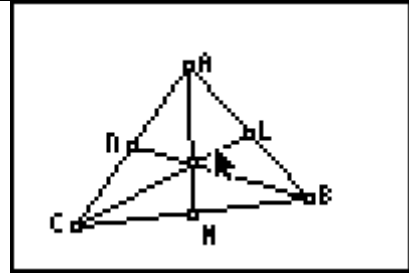2) When is the common point of intersection in the exterior of the triangle?
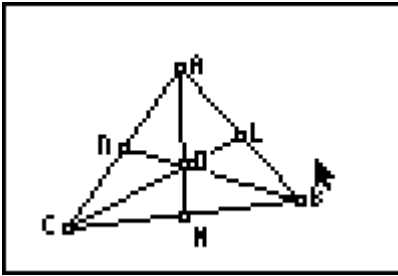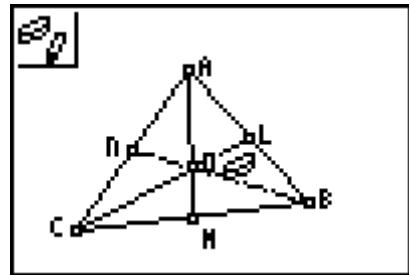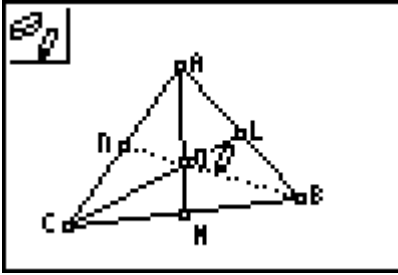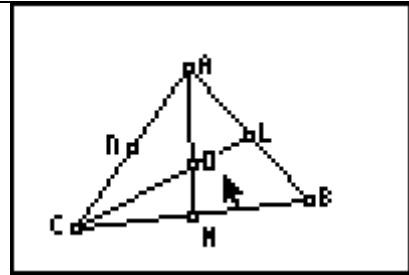
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3) When is the common point of intersection in the interior of the triangle?

    _____

4) Is the common point of intersection ever on a side of the triangle?

    _____

5) The common point of intersection is called the centroid. Why do you think that this is the name of this point?

    _____

6) Locate the point of intersection of the medians and label it O. Hide $\overline{BN}$.

Press [ENTER] and select two of the medians.

You will see the point of intersection identified.

	Label the point of intersection O.
Hide $\overline{BN}$ GRAPH) ENTER Now move the cursor to $\overline{BN}$ 	Press ENTER Press CLEAR
	Find the measures of $\overline{CO}$ and $\overline{OL}$ Calculate $\dfrac{CO}{OL}$ Find the measures of $\overline{AO}$ and $\overline{OM}$ Calculate $\dfrac{AO}{OM}$

7) What do you think would be true of $\dfrac{BO}{ON}$? _____

8) Write a statement regarding the point of intersection of the medians of a triangle and the ratio of the segments created by the intersection.

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