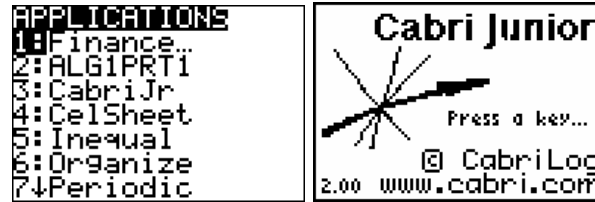


Load Cabri™ Jr. onto calculators: Open Cabri™ Jr.: Click [APPS], then scroll down to Cabri™ Jr and hit [ENTER]. You should see screens similar to below.




Cabri™ Jr. is a menu driven application. There are five menus: F1 (Y=) File Tools and Animation, F2 (WINDOW) Drawing and Object Tools, F3 (ZOOM) Construction Tools, F4 (TRACE) Transformation Tools, and F5 (GRAPH) Display and Measurement Tools.



Once a menu is displayed, use [↑], and [↓] to highlight the desired tool, then press [→], to view any submenu. Press [ENTER] when you have the desired item selected. Press [CLEAR] to close a menu or exit a tool. To undo the last completed action, press [Y=] to open the F1 menu and highlight undo. Press [ENTER]. A tool remains active until another tool is chosen or you press [CLEAR] to exit the tool.

Segments

1. Create a segment from a point.
 - a. Press [WINDOW], and then highlight point. Press [ENTER]. Place a point somewhere on the screen using your cursor and by pressing [ENTER].
 - b. Press [WINDOW], and then highlight segment. Press [ENTER]. Use your cursor to move to the point and press [ENTER].
 - c. Drag the point with your cursor wherever you would like to place the other endpoint. The calculator should be making a segment as you move your cursor. Press [ENTER].
2. Move one endpoint of your segment.
 - a. Press [CLEAR] to exit the segment tool. You should see nothing in the top left of your calculator screen. This means no tool is active.
 - b. Point your cursor over an object, when the arrow turns from solid to hollow and an object starts blinking you can initiate the Hand Tool  by pressing [ALPHA]. With the hand tool initiated you can drag the selected item with your cursor.
 - c. Press [CLEAR] to exit the Hand Tool.
3. Measure the length of your segment.
 - a. Press [GRAPH]. Scroll up or down to highlight Measure, then [→] to see the sub menu. Highlight D. & Length. Press [ENTER].
 - b. Move your arrow until the segment begins to dance. Press [ENTER]. An alternative way to accomplish the measurement of your segment is to go to an endpoint, press [ENTER], then go to the other endpoint and press [ENTER].
 - c. The Hand Tool is initiated with the length of the segment attached. If you want to increase the accuracy of your measurement, then press [+] while holding the

measurement. To decrease the accuracy press \square . Move this measurement wherever you would like with your cursor. Press \square . The length of your segment is shown.

4. Name your segment AB.
 - a. Press \square . Scroll up or down to highlight Alph-Num. Press \square .
 - b. Move your cursor to one of your two endpoints. When your endpoint starts flashing. Press \square .
 - c. Use green letters to the top right of each key to name your endpoints. For example, press \square for B.
 - d. Press \square .
 - e. Use your hand tool to change the length of your segment.
5. Find the perpendicular bisector of your segment.
 - a. Press \square . Scroll up or down and highlight Perp. Bis. Press \square .
 - b. Move your arrow towards your segment until the segment blinks. Press \square .
 - c. The perpendicular bisector is formed.
6. Create a point on the intersection of your segment and perpendicular bisector.
 - a. Press \square , and then highlight point, then \blacktriangleright see the sub menu. Scroll down to highlight Intersection. Press \square .
 - b. Move your cursor to the intersection of your segment and the perpendicular bisector until both begin to blink. Press \square .
 - c. Name this point C.
 - d. Press \square .
7. Find the length of AC.
 - a. Press \square . Scroll up or down to highlight Measure, then \blacktriangleright to see the sub menu. Highlight D. & Length. Press \square .
 - b. Move your arrow to point C. While point C is blinking press \square .
 - c. Move your arrow to point A. While point C is blinking press \square .
 - d. Your Hand Tool will be activated and you can move your measurement anywhere.
 - e. Press \square .
8. Find the ratio of AC to AB.
 - a. Press \square . Scroll up or down to highlight Calculate. Press \square .
 - b. Move your arrow until your length for AC is blinking. Press \square .
 - c. Press \square .
 - d. Move your arrow until your length for AB is blinking. Press \square .
 - e. Your Hand Tool will be activated and carrying something close to .5. Move your measurement anywhere.
 - f. Press \square .
9. Clear all objects.
 - a. Press \square . Scroll up or down to highlight Clear, then \blacktriangleright to see the sub menu. Highlight all. Press \square .
10. You can also use the compass tool to create a perpendicular bisector.
 - a. Press \square . Scroll up or down and highlight Compass. Press \square to initiate the compass tool.

Angles

11. Create an angle by creating two segments from a common endpoint.
 - a. Create a segment by pressing **[WINDOW]**, and then highlight segment. Press **[ENTER]**. Place a point somewhere on the screen using your cursor and pressing **[ENTER]**, then move the cursor anywhere and place the other endpoint by pressing **[ENTER]**.
 - b. Create another segment from one of the endpoints.
12. Name your angle $\angle ABC$.
 - a. Press **[GRAPH]**. Scroll up or down to highlight Alph-Num. Press **[ENTER]**.
 - b. Move your cursor to one of your two endpoints. When your endpoint starts flashing. Press **[ENTER]**.
 - c. Use green letters to the top right of each key to name your endpoints. For example, press **[MATH]** for A.
 - d. Press **[ENTER]**.
 - e. Repeat for points B and C.
13. Measure your angle.

- a. Press **[GRAPH]**. Scroll up or down to highlight Measure, then **[]** to see the sub menu. Highlight Angle. Press **[ENTER]**.
- b. Move your cursor to endpoint A. Press **[ENTER]**.
- c. Move your cursor to endpoint B. Press **[ENTER]**.
- d. Move your cursor to endpoint C. Press **[ENTER]**.
- e. The Hand Tool is activated. Move the measurement anywhere with your cursor. Press **[ENTER]**. Remember you can increase or decrease the accuracy of the measurement with the **[+]** or **[-]** key, respectively.

Move point A with your hand tool to change the measurement of $\angle ABC$.

14. Find the angle bisector of $\angle ABC$.
 - a. Press **[ZOOM]**. Scroll up or down and highlight Angle Bis. Press **[ENTER]**.
 - b. Move your cursor to endpoint A. Press **[ENTER]**.
 - c. Move your cursor to endpoint B. Press **[ENTER]**.
 - d. A dotted line will appear.
 - e. Move your cursor to endpoint C. Press **[ENTER]**.
 - f. Your dotted line will turn to a solid line and is the angle bisector for $\angle ABC$.

15. Save your figure as ANGLE.
 - a. Press **[Y=]**. Scroll up or down and highlight Save as. Press **[ENTER]**.
 - b. Use the green letters to spell ANGLE.

16. Clear all objects.
 - a. Press **[GRAPH]**. Scroll up or down to highlight Clear, then **[]** to see the sub menu. Highlight all. Press **[ENTER]**.

Triangles

17. Create a Triangle.
 - a. Press **WINDOW**, and then highlight Triangle. Press **ENTER**.
 - b. Place a point somewhere on the screen using your cursor and by pressing **ENTER**.
 - c. Drag a second point somewhere and press **ENTER**.
 - d. Finally, drag a third point somewhere and press **ENTER**. You should see a triangle.
18. Find the perpendicular bisector for all three segments.
 - a. Press **ZOOM**. Scroll up or down and highlight Perp. Bis. Press **ENTER**.
 - b. Move your arrow towards your segment until the segment blinks. Press **ENTER**.
 - c. The perpendicular bisector is formed.
 - d. You can do all three perpendicular bisectors without going through step a. each time.
19. Create a point at the intersection of the perpendicular bisectors; this point is called the circumcenter of the triangle.
20. Move one of the vertices of the triangle with the Hand Tool and try to get the circumcenter to appear outside of the triangle.
 - a. When, if ever, does the circumcenter appear outside of the triangle?
21. Clear all objects.
 - a. Press **GRAPH**. Scroll up or down to highlight Clear, then **▶** to see the sub menu. Highlight all. Press **ENTER**.

Circles

22. Create a Circle.
 - a. Press **WINDOW**, and then highlight Circle. Press **ENTER**.
 - b. Place a point somewhere on the screen using your cursor and by pressing **ENTER**.
 - c. Drag a radius point somewhere and press **ENTER**. You should see a circle.
23. Place a point on your circle.
 - a. Press **WINDOW**, and then highlight point, then **▶** to see the sub menu. Scroll down to Point On and press **ENTER**.
 - b. Drag the point with your cursor and when the circle is dancing press **ENTER**. You should see a point on your circle.
24. Measure the area of your circle.
 - a. Press **GRAPH**. Scroll up or down to highlight Measure, then **▶** to see the sub menu. Highlight Area. Press **ENTER**.
 - b. Move your cursor towards the circle until the circle begins dancing. Press **ENTER**.
 - c. The Hand Tool is activated. Move the measurement anywhere with your cursor. Press **ENTER**. Remember you can increase or decrease the accuracy of the measurement with the **+** or **-** key, respectively.
25. Create the radius of the circle with the segment tool.
 - a. Press **WINDOW**, and then highlight segment. Press **ENTER**. Use your cursor to move to the center point and press **ENTER**.
 - b. Drag the point with your cursor to a point on your circle. The calculator should be making a segment as you move your cursor. Press **ENTER**.
26. Measure the circumference of your circle.
 - a. Press **GRAPH**. Scroll up or down to highlight Measure, then **▶** to see the sub menu. Highlight D. & Length. Press **ENTER**.
 - b. Move your cursor towards the circle until the circle begins dancing. Press **ENTER**.
 - c. The Hand Tool is activated. Move the measurement anywhere with your cursor. Press **ENTER**. Remember you can increase or decrease the accuracy of the measurement with the **+** or **-** key, respectively.
27. Measure the radius of your circle.
 - a. Press **GRAPH**. Scroll up or down to highlight Measure, then **▶** to see the sub menu. Highlight D. & Length. Press **ENTER**.
 - b. Move your cursor towards the radius until the radius begins dancing. Press **ENTER**.
 - c. The Hand Tool is activated. Move the measurement anywhere with your cursor. Press **ENTER**. Remember you can increase or decrease the accuracy of the measurement with the **+** or **-** key, respectively.
28. Calculate the diameter of the circle.
 - a. Press **GRAPH**. Scroll up or down to highlight Alph-Num. Press **ENTER**.
 - b. Move the cursor to an empty space on screen. Press **ENTER**. Press **ALPHA**. (Notice that a 1 should appear in the upper left corner.) Hit **2**.
 - c. Press **GRAPH**. Scroll up or down to highlight Calculate. Press **ENTER**.
 - d. Move your arrow until your length for the radius is underlined. Press **ENTER**.
 - e. Press **×**.

- f. Move your arrow until your 2 is underlined. Press **ENTER**.
 - g. The Hand Tool is activated. Move the measurement anywhere with your cursor. Press **ENTER**. Remember you can increase or decrease the accuracy of the measurement with the **+** or **-** key, respectively.
29. Calculate the ratio of circumference to diameter.
- a. Press **GRAPH**. Scroll up or down to highlight Calculate. Press **ENTER**.
 - b. Move your arrow until your circumference is underlined. Press **ENTER**.
 - c. Press **÷**.
 - d. Move your arrow until your length of the radius is underlined. Press **ENTER**.
 - e. The Hand Tool is activated. Move the measurement anywhere with your cursor. Press **ENTER**. Remember you can increase or decrease the accuracy of the measurement with the **+** or **-** key, respectively.
 - f. Your answer should be close to π .