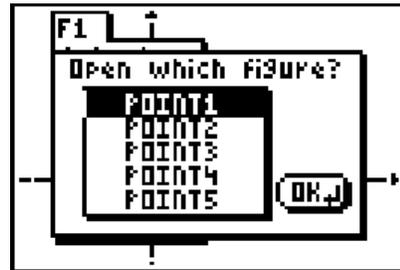


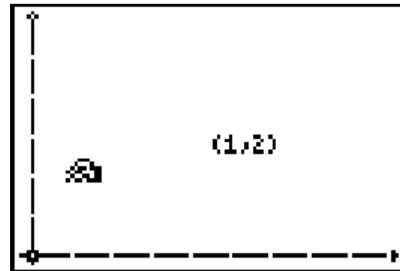


### Problem 1

Open the **CabriJr** app by pressing [APPS] and choosing it from the menu. Press [ENTER]. Press [Y=] to open the **F1:File** menu. Arrow down to the **Open...** selection and press [ENTER]. Choose figure **POINT1** and press [ENTER].



This figure shows a point  $P$  and its coordinates. You can use the arrow keys to drag the point. Drag point  $P$  around the plane, watching how each coordinate changes with the location of  $P$ .



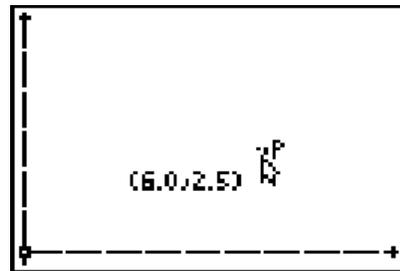
1. Try to move the point in such a way that the first coordinate stays the same. What kind of movement do you make?
2. Now try to move the point in such a way that the second coordinate stays the same. What kind of movement do you make here?

### Problem 2

Xavier and Yvette are playing a game in a fictional land called the Cartesian Plains. They keep track of their score by moving point  $P$ . Xavier's score is the first coordinate, and Yvette's score is the second coordinate.

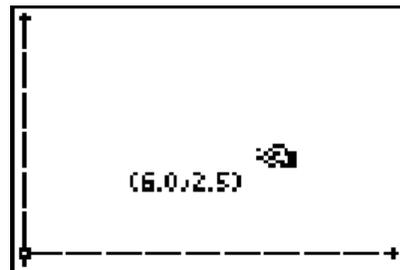
To see their game, press [Y=] to open the **F1: File** menu. Open figure **POINT2**. In the game shown, Xavier is in the lead, and the score is 6 to 2.5.

To move the point, first move the cursor to it using the arrows keys. The point is selected when the cursor turns white.



Press [ALPHA] to "grab" the point. The cursor turns into a hand.

You can now use the arrow keys to drag the point around the plane. Move point  $P$  to reflect different scoring situations in the game and to help you answer the following questions. Press [ENTER] to let go of the point.





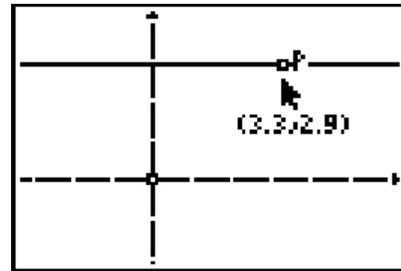
## Where's The Point?

3. Where is a point when Xavier has scored no points?
4. Where is a point when Yvette has scored no points?
5. Where is a point when Yvette is in the lead with the most points?
6. Where is a point when Xavier is in the lead with the most points?
7. Where is a point when the score is tied?

### Problem 3

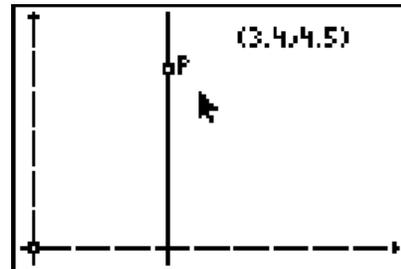
Open the figure **POINT3**. This graph shows a certain scoring situation for Xavier and Yvette's game.

8. Grab and drag point  $P$ , and describe what scores in the game are represented by the coordinates of this point  $P$ .



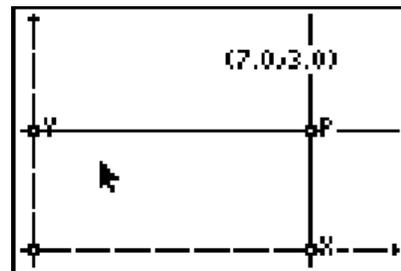
Open the figure **POINT4**. This graph shows yet another scoring situation for the game.

9. Grab and drag point  $P$ , and describe what scores in the game are represented by the coordinates of  $P$ .



### Problem 4

Open figure **POINT5**. This graph shows points  $X$  and  $Y$ , attached to the axes. Point  $P$  again represents the score in the game, which you can change by dragging points  $X$  and  $Y$ . Experiment with the scoreboard by dragging points  $X$  and  $Y$ , and thus changing Xavier's and Yvette's scores.



10. What line segment in the graph has a length equal to Xavier's score?
11. What line segment in the graph has a length equal to Yvette's score?