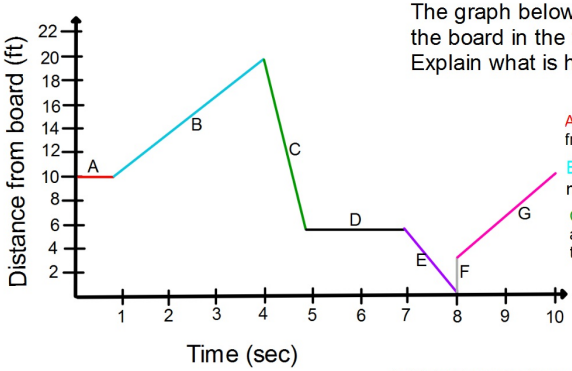
Section 5-1: Relating Graphs to Events



The graph below shows a student's distance from the board in the front of the room.
Explain what is happening in each lettered section.

A. Student is sitting at their seat about 10 ft from the board.

B. Student is walking to the back of the room, maybe to sharpen their pencil.

C. Student runs toward the board and stops about 6 feet away. Maybe they stop at the teachers desk.

D. Student stays at the teachers desk for a little bit.

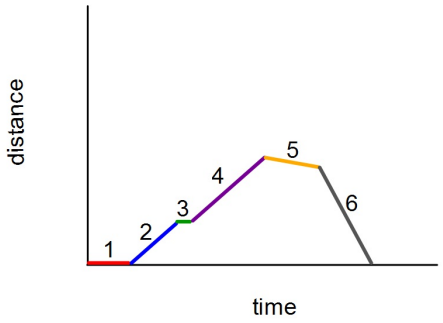
E. Student walks to the board. Maybe to do a problem on the board.

F. Student jumps back away from the board.

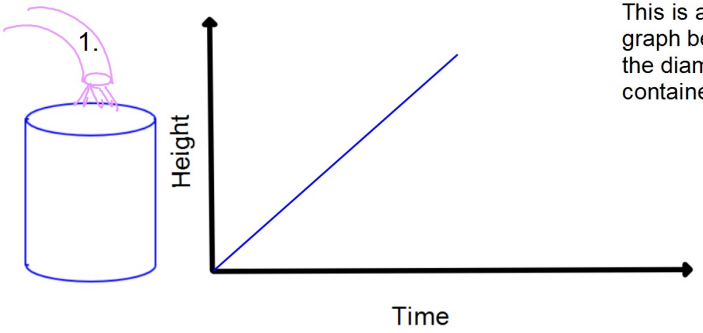
G. Student walks back to their seat.

Draw a graph of distance from home as a function of time to model the following situation:

1. I started out by sitting on my front porch and stretching for a little bit.
2. I then started jogging slowly.
3. I stopped to tie my shoe.
4. I then started jogging again at the same rate as before.
5. After a while I got a bad cramp and started crawling back home.
6. The cramp went away so I started jogging back home, a little quicker than I was jogging before, until I reached home.

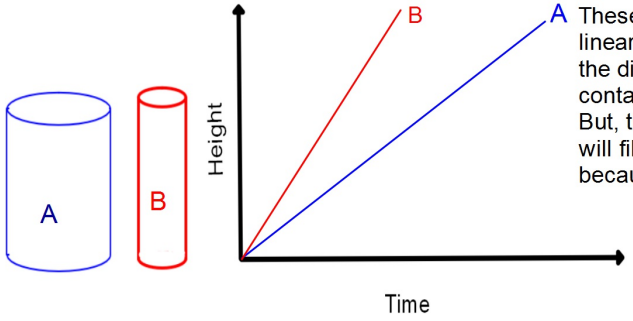


You fill up a container with a steady stream of water from your faucet. Sketch the Height of the water in the container as a function of time for each shape.



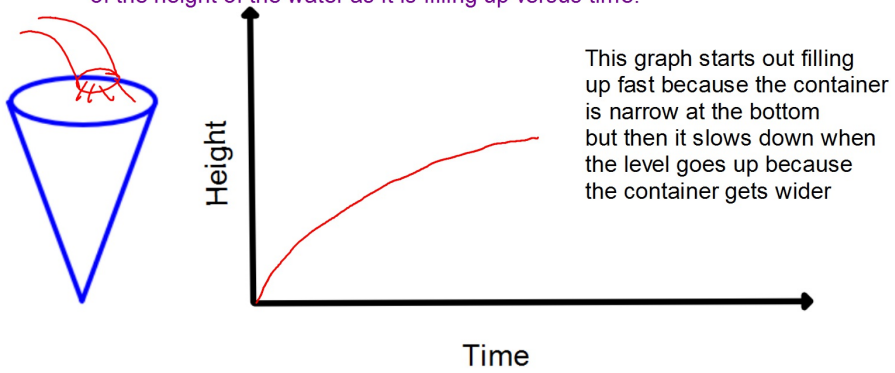
This is a linear graph because the diameter of the container is constant.

Water is filling up the containers you see on the left. Sketch the graph of the height of the water as it is filling up versus time.



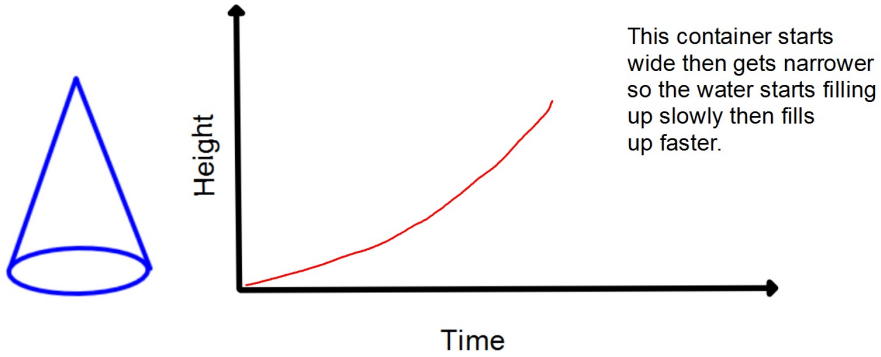
These are both linear graphs because the diameter of each container is constant. But, the red container will fill up faster because it is narrower.

Water is filling up the container you see on the left. Sketch the graph of the height of the water as it is filling up versus time.



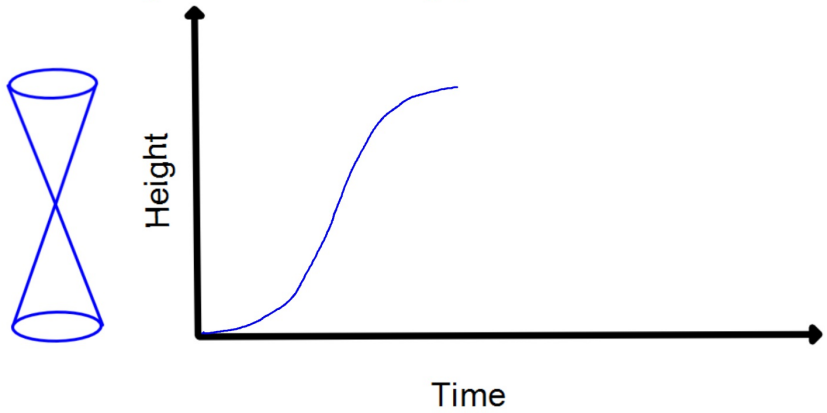
This graph starts out filling up fast because the container is narrow at the bottom but then it slows down when the level goes up because the container gets wider

Water is filling up the container you see on the left. Sketch the graph of the height of the water as it is filling up versus time.

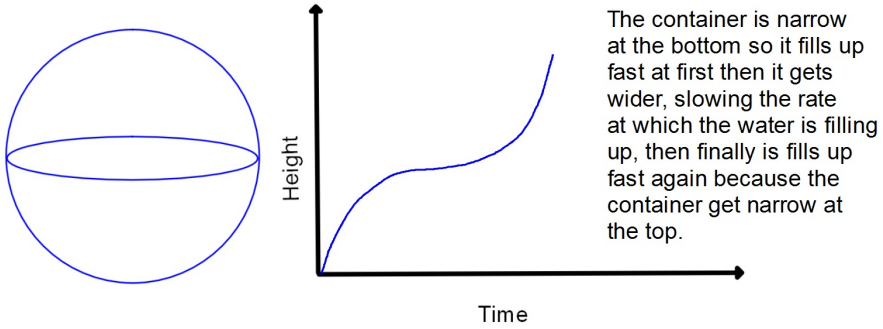


This container starts wide then gets narrower so the water starts filling up slowly then fills up faster.

Water is filling up the container you see on the left. Sketch the graph of the height of the water as it is filling up versus time.

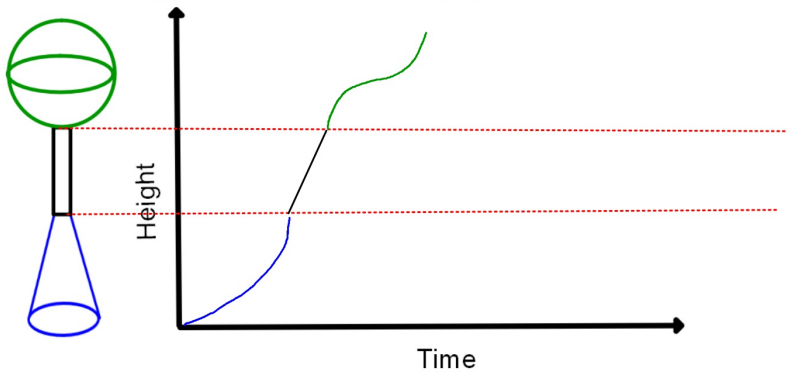


Water is filling up the container you see on the left. Sketch the graph of the height of the water as it is filling up versus time.

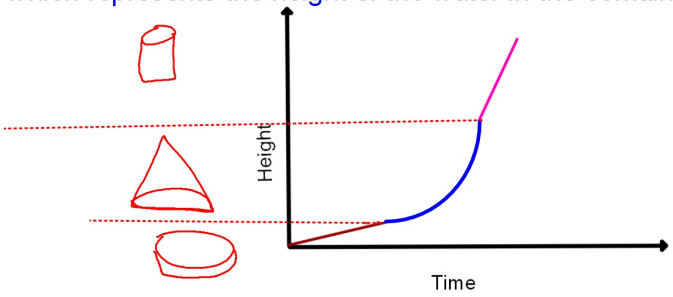


The container is narrow at the bottom so it fills up fast at first then it gets wider, slowing the rate at which the water is filling up, then finally is fills up fast again because the container get narrow at the top.

Water is filling up the container you see on the left. Sketch the graph of the height of the water as it is filling up versus time.



Sketch the container that might create this graph which represents the height of the water in the container as it is filling.



Hwk #18: Sec 5-1

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Problems 2, 4, 6, 7, 9, 12, 14, 16

Due Monday