Drawing Function Questions

- Do we need a drawing function? → yes, if –
  - a thing consists of more than a few shapes
  - there is more than one copy of a thing (including variations) in a single frame or over a series of frames (interaction)

- drawing function definition
  - What is being drawn?
  - What differs from one copy to the next?
  - How is it drawn?

- drawing function calls
  - What are the specific values for the "what differs" things?
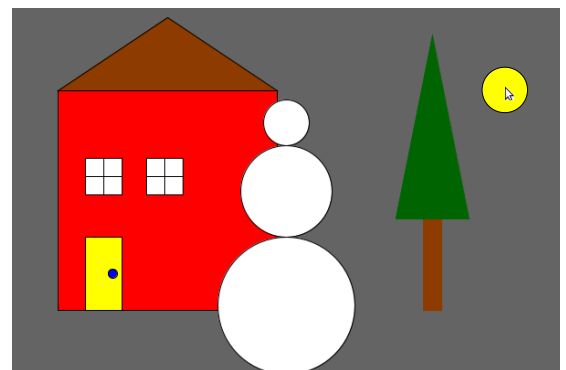
At the End of Class

Hand in whatever you have done during class, even if a sketch is incomplete.

- Make sure each sketch is named as directed and has a comment with the names of your group. Also be sure to save your sketches! (This should be in your sketchbook **~/cs120/sketchbook**)
- Copy the entire directory for each sketch (not only the `.pde` file) into your handin directory (**/classes/cs120/handin/*username***). You only need to hand in one copy for the group.

Exercises

1. Consider a sketch which draws the picture shown. The sun (in the upper right corner) should follow the mouse, with the mouse pointer in the center of the sun (as shown).

   For what, if anything, should you create drawing functions? Write your answers in the space below.

- drawing functions for: tree, snowman, door, window, house (things consisting of more than one shape and, for windows, more than one copy)
- while the sun has more than one copy due to interaction (a copy in each frame), it is only one shape and so not really deserving of a drawing function

2. Consider a sketch which draws the picture shown – three of the snowmen should be in fixed positions as shown, and the rightmost snowman should follow the mouse with the mouse pointer in the center of the bottom circle.

   Fill in the table below for a snowman drawing function. For "how is it drawn?", label the relevant elements in the picture. For the specific values, use the four rows for each "what differs?" thing for the four snowmen in the picture – one row for each snowman from left to right.

what differs from one copy to the next?	how is it drawn?	what are the specific values for the "what differs" things?
position – x	• let position (x,y) be the bottom center (red dot) • drawing ellipses in CENTER mode requires positions of yellow dots, plus width, height of each ellipse	snowman 1: 100
		snowman 2: 200
		snowman 3: 300
		snowman 4: mouseX
position – y	(x, y-275) ◦ 50 (x, y-200) ◦ 100 (x,y-75) ◦ 150 (x,y)	snowman 1: 350
		snowman 2: 325
		snowman 3: 400
		snowman 4: mouseY+75