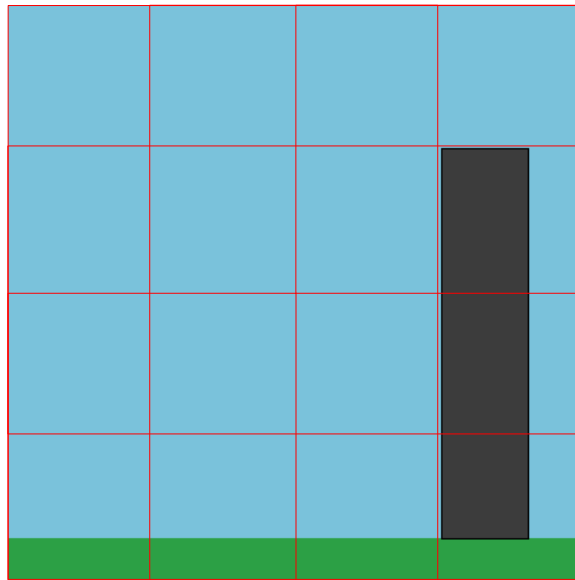


Name: _____

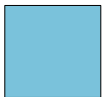
Lab 3 Worksheet

Exercise 1

- Determine the positions and sizes needed for drawing the shapes in the picture below using the procedure discussed in class – identify the values you need, label what you know, and work things out from there. Write directly on the picture! The red grid lines are to help you figure out appropriate values – they are not shapes that need to be drawn.



- Without using the color selector**, give RGB values for the following colors:









(continued on the next page)

- The cloud, made up of three circles, moves to the right. What animation variable(s) are needed? Try to use as few as possible. Fill in the table below, with one animation variable per row.



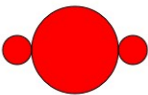
what changes?	what kind of value?	what's the starting point?	how does the value change?

- Determine positions and sizes for the shapes in the cloud in terms of the animation variable(s) you identified above – identify the values you need, label what you know, and work things out from there. Write directly on the picture!



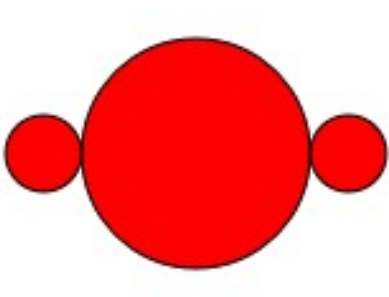
Exercise 2

- The circle in the middle grows. What animation variable(s) are needed? Try to use as few as possible. Fill in the table below, with one animation variable per row.



what changes?	what kind of value?	what's the starting point?	how does the value change?

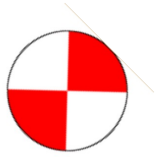
- Determine positions and sizes for the shapes in terms of the animation variable(s) you identified above – identify the values you need, label what you know, and work things out from there. Write directly on the picture!



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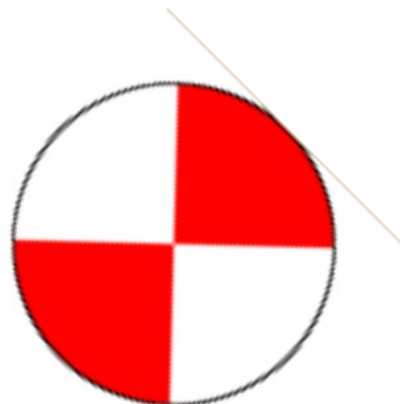
Exercise 3

- The wheel rolls, rotating clockwise and moving to the right. What animation variable(s) are needed? Try to use as few as possible. Fill in the table below, with one animation variable per row.



what changes?	what kind of value?	what's the starting point?	how does the value change?

- To make the wheel look like it is rolling rather than spinning or sliding, you need to match the amount that it moves horizontally with the amount that the wheel turns in each frame. You might know that the circumference of a circle is $2\pi r$, where r is the radius of the circle. From this you can work out that if the wheel turns by the angle a (in radians) in each step, it rolls (and moves sideways) a distance of $a*r$. Update the “how does the value change?” column above as needed to reflect this necessary relationship. If you are working with angles in degrees, you’ll need to convert the update angle to radians first.
- Determine the positions for the shapes in terms of the animation variable(s) you identified above – identify the values you need, label what you know, and work things out from there. Write directly on the picture!



Exercise 4

- Draw your planned scene on the next page, and use the picture to work out positions and sizes for the shapes.
- What animation variable(s) are needed? Try to use as few as possible. Fill in the table below, with one animation variable per row.

[illegible]

