1. **Justify development choices for your 3D scene**. Think about why you chose your selected objects. Also consider how you were able to program for the required functionality.

I chose the main focal points of the picture to recreate. I had to make do with the simple shapes we were given. This made it so I had to simplify objects to fit the general shape but not be hyper realistic. I decided to exclude the painting in the background of the image since it would be very difficult and it’s not important to the composition

I used textures to elevate the scene. For Kiwi, I just gave her a fully black body since she has irregular splotches of white around her belly. I specifically found shiny black fur to really show the texture because that makes it look much better than a flat, dull fur. I made her nose pink instead of black for visibility since noses are an important part of cat anatomy. Her ears are also black instead of pink with an outline of black due to simplifying. I made her feet and muzzle white with patches of black for simplicity. The tower and curtain turned out really well. I was able to find pretty close textures for them and they were made of simple shapes.

Finally, I used advanced lighting to help really show the three dimensions. There are 4 lights, 0-3, with 3 being the brightest main light. The photo did have 4 light sources via 2 windows, a ceiling light, and a desk light. I wanted to try and recreate that complex lighting situation.

1. **Explain how a user can navigate your 3D scene**. Explain how you set up to control the virtual camera for your 3D scene using different input devices.

There are camera controls to view the scene. W is forward, s is back, a is left, d is right, q is up, and e is down. There is also a mouse scroll wheel control to change the speed of keyboard functions. This may or may not work on a touchpad, depending on your computer. I found that out the hard way. The mouse changes the view based on where the cursor is, moving it around changes the perspective. Most importantly, pressing the o key will bring it to orthographic view, and p will do perspective view. You start off in perspective and can move all around the scene whereas the orthographic view is stationary.

1. **Explain the custom functions in your program that you are using to make your code more modular and organized**. Ask yourself, what does the function you developed do and how is it reusable?

I added custom functions to make each significant object/type its own separate function. I have RenderCurtains(); RenderKiwi(); RenderTower(); and RenderBackground();. This allows the code to be modularized and more organized. I have the names of each piece in the comments, but people from the outside wouldn’t understand the difference without modularization. Spherek1 for example is Kiwi’s head but that doesn’t look very different from Cylindert4 which is in the tower. With them being separated it is much easier to see what the comments mean.