**Week 11**

**7.8** Suppose that we have two translucent surfaces characterized by opacities α1 and α 2. What is the opacity of the translucent material that we create by using the two in series? Give an expression for the transparency of the combined material.

**With a surface that has opacity 1, a fraction 1 - 1 of light will pass through it.**

**For the next surface with opacity 2, the amount that passed for the first surface (1 - 1) will be reduced for (1 - 2). Therefore, the amount of light that will pass through the second surface is (1 - 1)(1 - 2) or (1 - 1- 2-12).**

**7.14** When we supersample a scene using jitter, why should we use a random jitter

pattern? **Random jitter avoids the creation of beat patterns or Moire effects. Therefore,  jittering makes the images appear to be better, because our visual system is sensitive to regular patterns.**

**7.16** Consider a scene composed of simple objects, such as parallelepipeds, that are

instanced at different sizes. Suppose that you have a single texture map and you are

asked to map this texture to all the objects. How would you map the texture so that the pattern would be the same size on each face of each object? **It is necessary do to set up a new texture map for each object with different size and then paste the texture on the object.**

**7.27** In what types of applications might you prefer a front-to-back rendering instead

of a back-to-front rendering? **For front-to-back rendering raytracing is the better algorithm. For back-to-front rendering painter algorithms are more suitable because faces in front always paint over surfaces behind them.**