**Question 1**

Which (if any) of the following statements are TRUE about light in the context of radiometrc raytracing?

1. Rays of light do not interfere with one another
2. Light is treated as several different wavelengths traveling from one place to another
3. Light travels in perfectly straight lines
4. The amount of light emitted from some point A towards some point B is the same amount of light that reaches point B
5. It is not possible to model diffraction of light using radiometric raytracing

**Question 2:**

What is the cause of "shadow acne", the appearance of shadows where none should exist? Describe a method one might use to fix it. Your answer should be no more than two sentences.
It is caused by the point of intersection with an object resting slightly inside the object, which in turn causes any light feeler rays to be occluded by the object being checked for light visibility.

**Question 3:**

What is aliasing and why does it occur? Describe a method used to combat its effects. Your answer should be no more than two sentences.
Aliasing is the inaccurate reconstruction of visual information after being sampled, and is caused by having a sampling frequency too low to accurately represent the data being sampled (e.g. a low resolution image displaying a highly detailed scene). By sampling multiple times within a pixel of an image and averaging the result (aka super-sample anti-aliasing) we can reduce, but not eliminate, the effects of aliasing.

**Question 4:**

What is the simplest way to determine if a ray is entering or exiting a transparent object? Answer in one sentence.
Take the dot product of the ray direction and surface normal; if the product is positive then the ray is exiting and if it's negative then the ray is entering.