

Week 81 (3/29/04)

Rainbows

Assuming that the index of refraction of water is $4/3$ and that raindrops are spherical, show that the location of a rainbow is approximately 42° above the line from the sun to you. If you see a double rainbow, what is the angle of the second one? Even triple rainbows are possible, although they are difficult to see; where is the third one?