Extra Credit 18

An old Buddhist monk lives besides a tall pagoda. At sunrise it starts to climb stairs and by sunset he is on the roof where he spends the night. With sunrise next morning he starts his descent and back to the ground by sunset. Prove that there is a time of a day at which the monk is at the same point on his way up and on his way down.

Representing the problem *visually* leads to a fairly obvious solution. Visualize the path of the monk ascending, starting at dawn, and his path descending, also starting at dawn. If the paths start at opposite ends of the trail at the same time, they must meet somewhere.

Another approach is to think of two monks to represent his two journeys, one climbing up the stairs and one going down at the same time. The two monks must meet somewhere on the path, therefore occupying the same spot on the path at the same time of day.