1. The edge of a cube was found to be 30 cm with possible error in measurement of 0.1 cm. Use differentials to estimate the maximum possible absolute, relative, and percentage error in computing the volume of the cube.

2. Two people start from the same point. One walks east at 3 mi/h and the other walks north at 4 mi/h. How fast is the distance between the people changing after 4 hours?