1. The Dexter company manufactures a new kind of light bulb based on the latest LED technology. The (population) mean life of a Dexter bulb is 7.0 years with a population standard deviation of 1.4 years. The mean life of a Dexter bulb is normally distributed.

(a) What proportion of Dexter bulbs will last more than 9.5 years? ______________

(b) What proportion of Dexter bulbs will last less than 4.0 years? ________________

(c) What proportion of Dexter bulbs will last between 8.0 and 9.0 years? ______________

(d) A Dexter bulb that lasts exactly 7.0 years, would be at what percentile? _____________

(e) Calculate the 90\textsuperscript{th} percentile for a Dexter bulb. __________________

(f) Calculate the 28\textsuperscript{th} percentile for a Dexter bulb. ____________________