

NormalDistributions\_DoNow

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<sup>th</sup> percentile for a Dexter bulb. \_\_\_\_\_
- (f) Calculate the 28<sup>th</sup> percentile for a Dexter bulb. \_\_\_\_\_