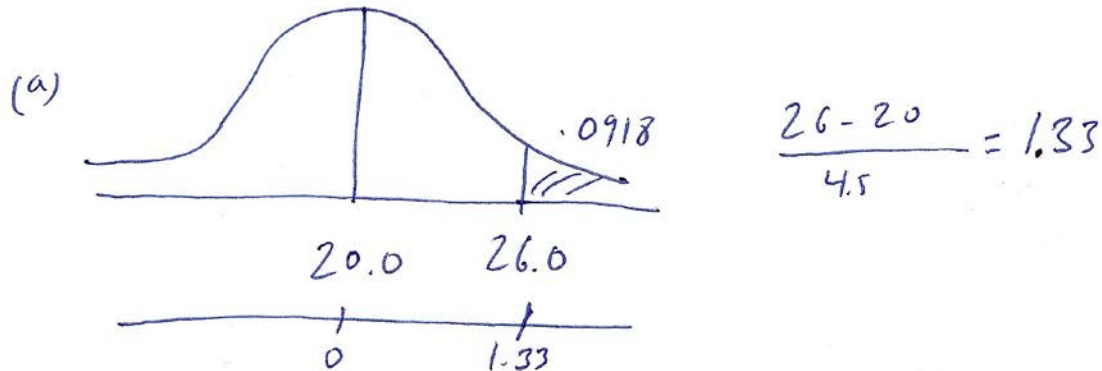

SOLUTIONS TO

TEST YOUR KNOWLEDGE: Sampling Distributions

1. The Bluth Company manufactures desks with a (population) average life of 20.0 years and a population standard deviation of 4.5 years. Average life of a Bluth desk is normally distributed.

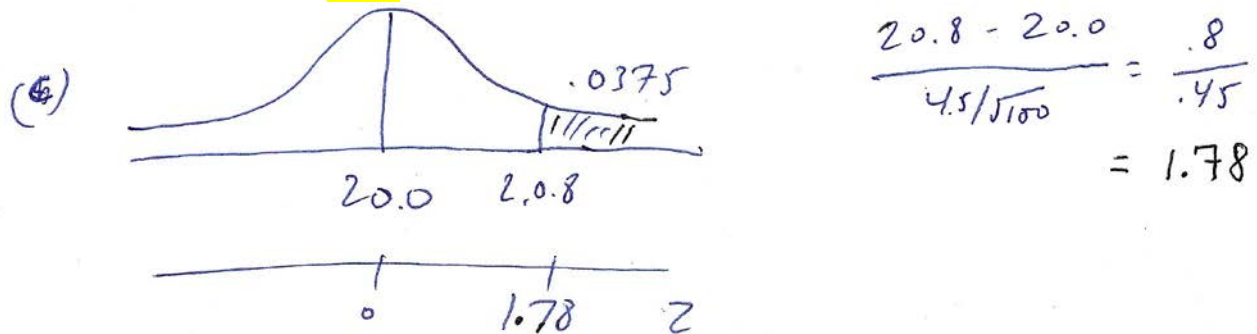
(a) What proportion of Bluth desks will last more than 26 years? **.0918**



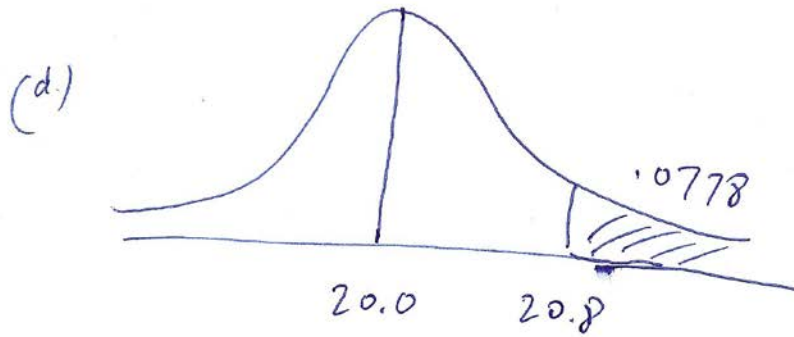
(b) What proportion of sample means of Bluth desks based on sample sizes of $n = 100$, will be greater than 20.0 years? **.5000**

In the normal distribution the mean is = to the median (50th percentile).

(c) What proportion of sample means of Bluth desks based on sample sizes of $n = 100$, will be greater than 20.8 years? **.0375**



(d) What proportion of sample means of Bluth desks based on sample sizes of $n = 64$, will be greater than 20.8 years? **.0778**



$$\frac{20.8 - 20}{4.5/\sqrt{64}} = \frac{.8}{4.5/8}$$

