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## Quiz 9.3C

## AP Statistics

Name:
The distribution of actual weights of 8 -ounce chocolate bars produced by a certain machine is Normal of a chocolate bar to and standard deviation 0.1 ounces. Company managers do not want the weight
1.

1. Find the probability that the weight of a Asays Normal?
$\mu_{\bar{x}}=8.1 \quad \overline{2}=7.85$ a randomly selected candy bar is less than 7.85 ounces. $\theta_{\bar{x}}=.1$

$$
\begin{aligned}
& z=\frac{7.85-8.1}{.^{1}} \\
& z=-2.5 \\
& \text { propertion is } \\
& .0062
\end{aligned}
$$

$$
\text { Theri's a } .62 \%
$$

chance the selected

Four candy bars are selected at random and their mean weight, $\bar{x}$, is computed.
2. Describe the center, shape, and spread of the sampling distribution of $\bar{x}$.

Shape: Normal mound-shaped, symmethc
center: save as parent population $=8.10 \mathrm{z}$
spread: $\frac{-1}{\sqrt{n}}=$ standard deviaction

$$
\sqrt{n}=\frac{1}{\sqrt{3}}=.05
$$

3. Find the probability that the mean weight of the four candy bars is less than 7.85 ounces

$$
z=\frac{7.85-8.1}{.05}
$$

$$
z=-5
$$

There's not a chance

$$
\text { proportion }=0
$$

$$
\begin{aligned}
& \text { that the mean } \\
& \text { weight of the } 4 \\
& \text { candy bars is } \\
& \text { less than } 7.8508
\end{aligned}
$$

4. Would your answers to 1,2 , or 3 be affected if the weights of chocolate bars were distinctly non-
Normal?
Same as \#4 m

$$
9.3 \mathrm{~A}
$$



statistics chapter 2 homework answers

chapter 7 statistics homework answers



