Question 2

A population of sunflower plants is described as having a monthly growth rate that follows a normal distribution with $\mu = 3.08$ in and $\sigma = 0.40$ in.

Use this information to answer the following questions.

(1 point possible)

2a. What is the probability that a randomly chosen sunflower plant grows more than 3.2 inches in a month? *(Round to 3 decimal places.)*

0.618

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0.618

Answer: 0.382

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(1 point possible)

2b. A middle-school science class grew 25 of these sunflowers. How many inches would they expect these flowers to have grown, on average, one month later? *(Round to 2 decimal places.)*

3.20

3.20

Answer: 3.08

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(1 point possible)

2c. The middle school science teacher replicates her study with 25 new sunflowers every year. How much variability should she expect in the average monthly growth of these samples? *(Round to 2 decimal places.)*

0.40

Help

0.40

Answer: .08

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(1/1 point)

2d. The science teacher notices that the average monthly growth of her 25 sunflowers has never exceeded 3.2 inches. What should she conclude?

- About 38% of her samples should have an average growth of 3.2 inches or more, so something is wrong with her data.
- Her data suggests that the original growth parameters given for this sunflower population must be wrong.
- We wouldn't expect to see an average monthly growth of 3.2 inches for a sample of 25 plants. Her data is probably fine. ✔

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(1 point possible)

2e. What is the probability that her next sample of 25 sunflowers will grow an average of more than 2.9, but less than 3.2 inches, in a month? *(Report as a proportion rounded to 3 decimal places.)*

0.064

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0.064

Answer: .921

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