Name _____ Date _____ Period _____

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Artificial and Sexual Selection

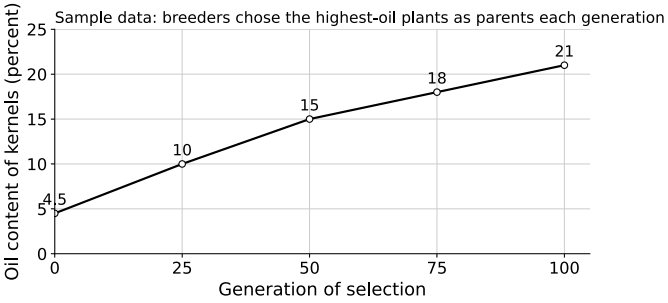
Biology

Answer in complete sentences. Show your work for calculations.

1. Decide which type of selection each example shows.

Example	Natural, artificial, or sexual selection?
(a) Dog breeders mate only the calmest dogs in each litter.	
(b) Male elk with larger antlers win fights and mate more often.	
(c) Mice whose fur matches the soil are caught less often by owls.	

2. Breeders chose corn plants with the most oil in their kernels each generation.

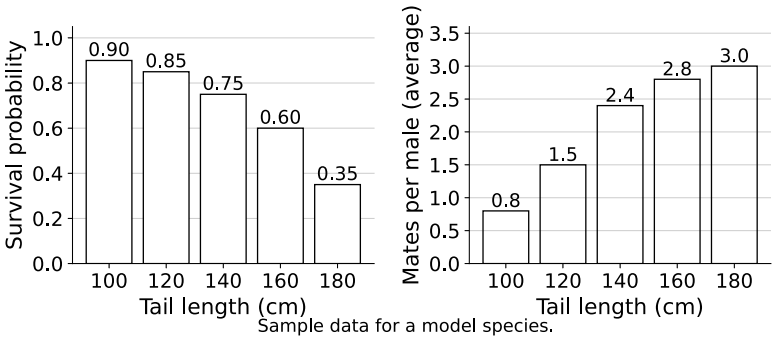


(a) What was the oil content at generation 75?

(b) How much did the oil content increase from generation 25 to generation 75?

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3. Reproductive success = survival probability × average number of mates.

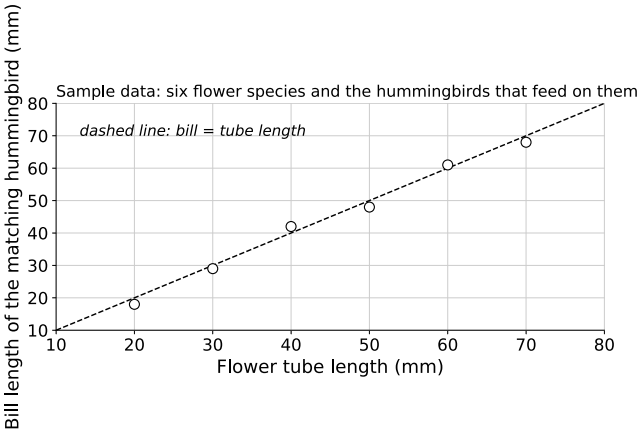


Sample data for a model species.

(a) Find the reproductive success of a male with a 160 cm tail. Show your setup.

(b) Compare 120 cm with 180 cm. Which has the greater reproductive success? What does this show?

4. The graph compares flower tube length with the bill length of the hummingbird that feeds on each flower.



(a) Predict the bill length of a hummingbird that feeds on a flower with a 50 mm tube.

(b) Explain how this pattern is evidence of coevolution.

5. Explain why sexual selection can favor a trait that lowers an animal's chance of survival.

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