

Quiz 10 - Population Size and Population Growth

Due Apr 2 at 11:59pm **Points** 12 **Questions** 12
Available until Apr 3 at 10am **Time Limit** 60 Minutes
Allowed Attempts 2

Instructions

This quiz asks about about estimating population size and population growth (logistic and exponential).

You have 2 attempts at this quiz. The highest mark counts.

Due date: Sunday, April 2nd @ 11:59 pm.

Attempt History

	Attempt	Time	Score
KEPT	Attempt 2	3 minutes	12 out of 12
LATEST	Attempt 2	3 minutes	12 out of 12
	Attempt 1	20 minutes	11 out of 12

⚠ Correct answers will be available Apr 3 at 12pm - Apr 23 at 6pm.

Score for this attempt: **12** out of 12

Submitted Mar 29 at 9:41pm

This attempt took 3 minutes.

Question 1

1 / 1 pts

What is a population?

☐ A collection on individuals living in the same habitat

☒ Members of the same species who live in the same area at the same time



A community of different species living in the same area at the same time.

Question 2

1 / 1 pts

Suppose that you trap 255 stickleback fish in a lake and mark them by clipping the first spine off their dorsal fins. One month later, you return to the lake and capture a total of 162 stickleback fish. 78 of these fish are marked. What is the estimated population size of stickleback fish in this lake?

☐ 50☐ 123☒ 530☐ 4814

Question 3

1 / 1 pts

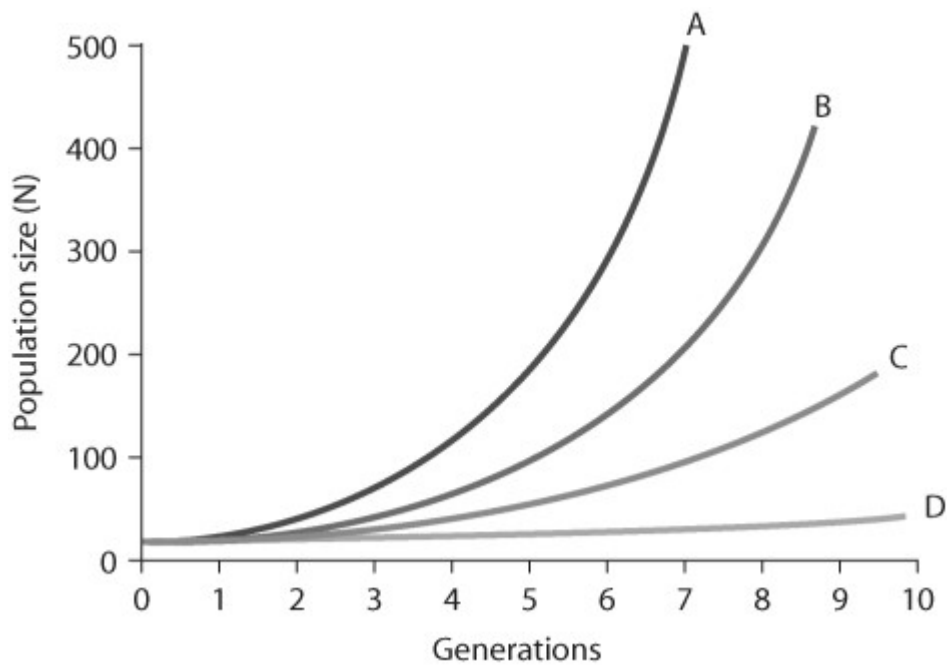


Figure 52.4

Assuming that these populations are density dependent, what is the likely outcome if the system depicted in the figure above were allowed to continue?

- ☐ Population growth would continue to be discontinuous.
- ☐ Populations would go extinct.
- ☐ Individual growth would continue to be indeterminate.
- ☒ Population growth would likely decrease.

Question 4

1 / 1 pts

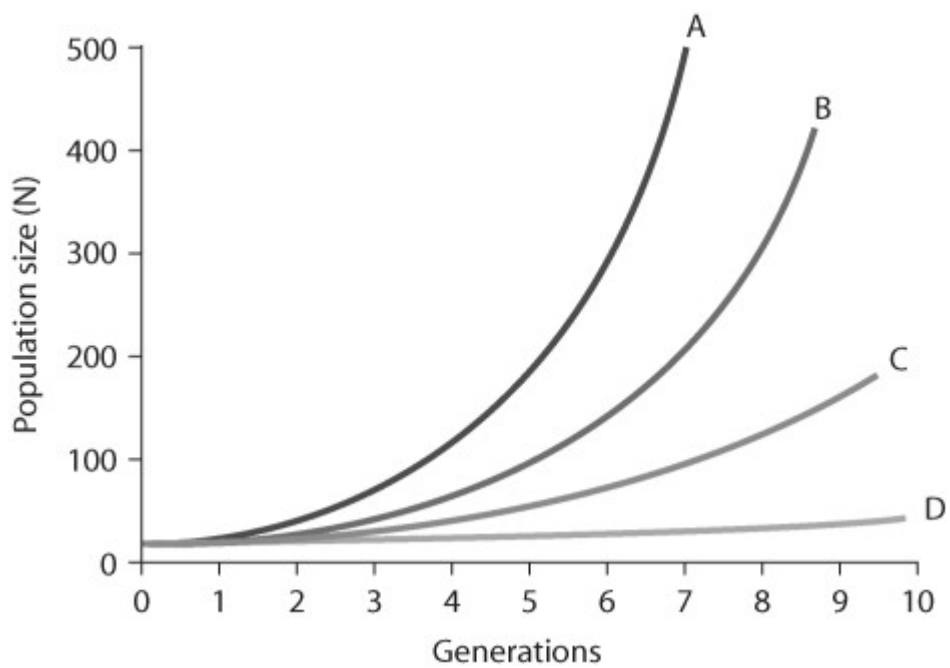


Figure 52.4

In the figure above, which of the lines represents exponential growth?

☐ line A

☐ line B

☐ line C

☐ line D

☒ all of the above

Question 5

1 / 1 pts

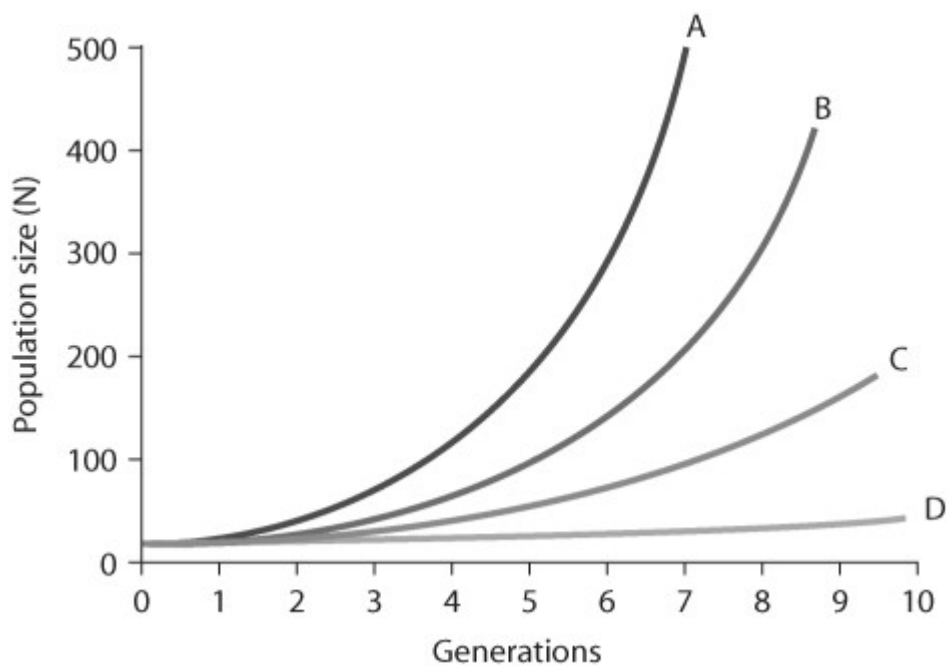


Figure 52.4

In the figure above, which of the lines represents the highest per-capita rate increase (r)?

☒ line A

☐ line B

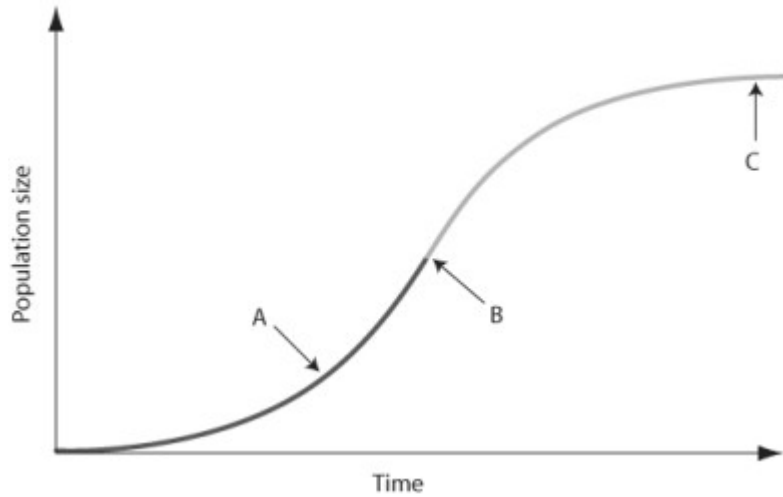
☐ line C

☐ line D

Question 6

1 / 1 pts

(a) Density dependence: Growth rate slows at high density.



In the figure above, which of the arrows represents the carrying capacity?

☐ arrow A

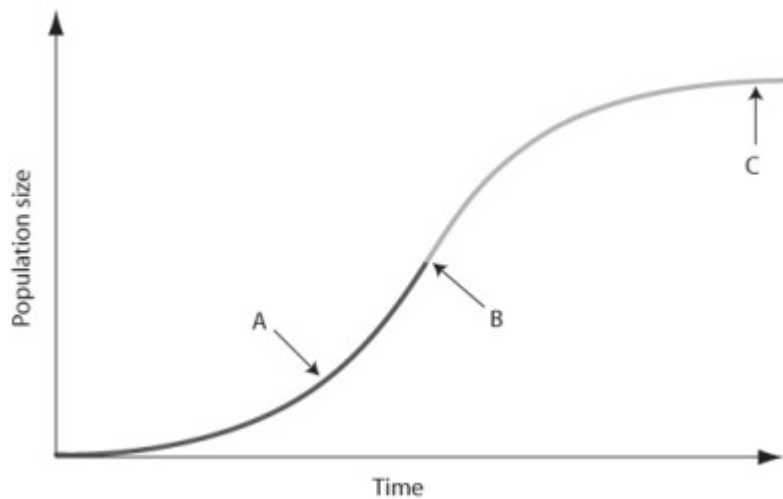
☐ arrow B

☒ arrow C

Question 7

1 / 1 pts

(a) Density dependence: Growth rate slows at high density.



In the figure above, which of the arrows represents the most rapid (absolute) population growth?

☐ arrow A

☒ arrow B

☐ arrow C

Question 8

1 / 1 pts

Which statement about K is false?

☐ K varies among populations.

☐ K varies in space.

☐ K varies in time.

☒ K is specific for a given species.

Question 9

1 / 1 pts

Which of the following might be considered a density-dependent factor that could slow population growth? Choose all that apply.

☒ High competition for food sources occurs

☒

Organisms become stressed and more prone to disease from overcrowding

☐ Large storms destroy a substantial amount of suitable habitat.

☐ Increased light becomes available for photosynthetic organisms

☒ Predators eat more prey as the prey numbers increase

Question 10

1 / 1 pts

Which of the following would you predict to have a large r (per capita rate of increase)? Choose all that apply.

☒ Cyanobacteria (pond scum)

☐ Humans

☐ Elephants

☐ Orcas

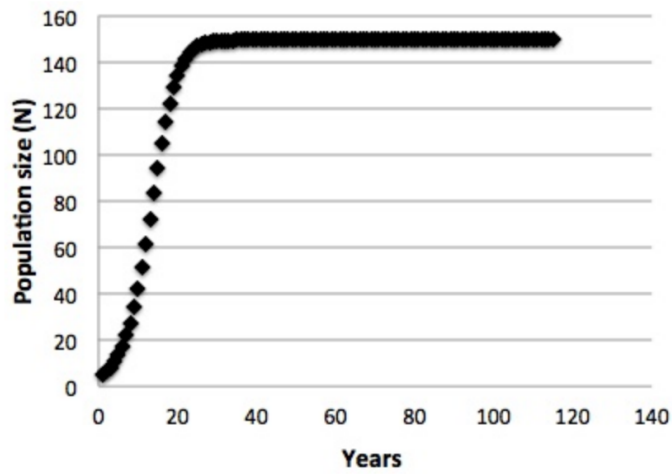
☒ Mosquitoes

☒ Dandelions

Question 11

1 / 1 pts

The graph below shows change in the size of a population over 120 years.



Based on the figure above, what is the carrying capacity of the habitat this population inhabits?

☐ 75

☒ 150

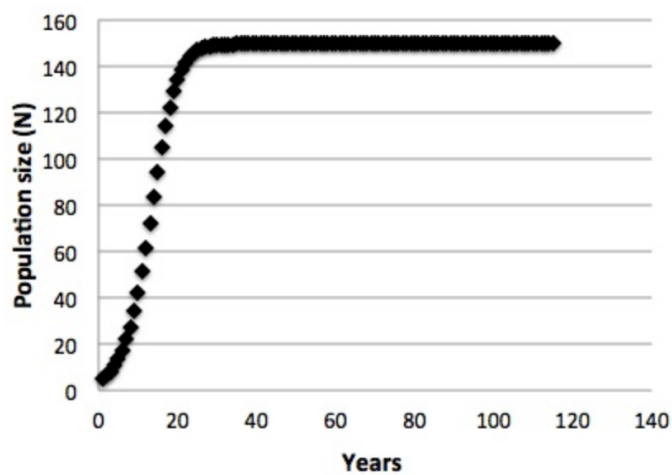
☐ 160

☐ 30

Question 12

1 / 1 pts

Based on the figure below, what is the population's per capita rate of increase (r) between year 80 and year 100?



☒ 0

☐ 1.0

☐ 0.5

☐ 0.75

Quiz Score: **12** out of 12