WGU Applied-Algebra C957 Practice Questions

Shared by Ward on 30-10-2026

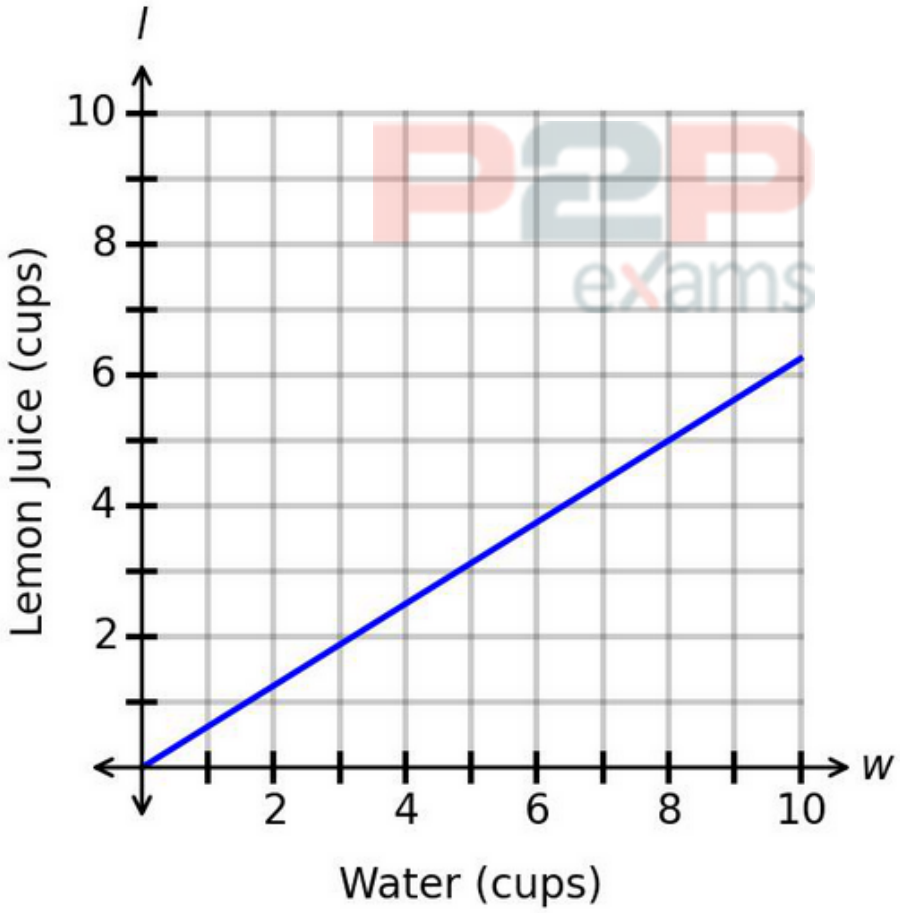
For More Free Questions and Preparation Resources

Check the Links on Last Page

Question 1

Question Type: MultipleChoice

A recipe calls for a constant ratio of water and lemon juice. The graph shows the relationship between the amounts of these two ingredients, where is the volume of water and is the volume of lemon juice.



What is the correct interpretation of the rate of change?

Options:

A- The amount of lemon juice must be the amount of water plus .
B- The amount of lemon juice must be of the amount of water.
C- The amount of lemon juice must be the amount of water plus .
D- The amount of lemon juice must be of the amount of water.

Answer:

D

Explanation:

The graph shows a linear relationship between:

and

The line passes through the origin, so the relationship has the form:

where is the rate of change.

From the graph, a clear point on the line is approximately:

This means when there are 8 cups of water, there are 5 cups of lemon juice.

The rate of change is:

So the relationship is:

This means the amount of lemon juice must be:

of the amount of water.

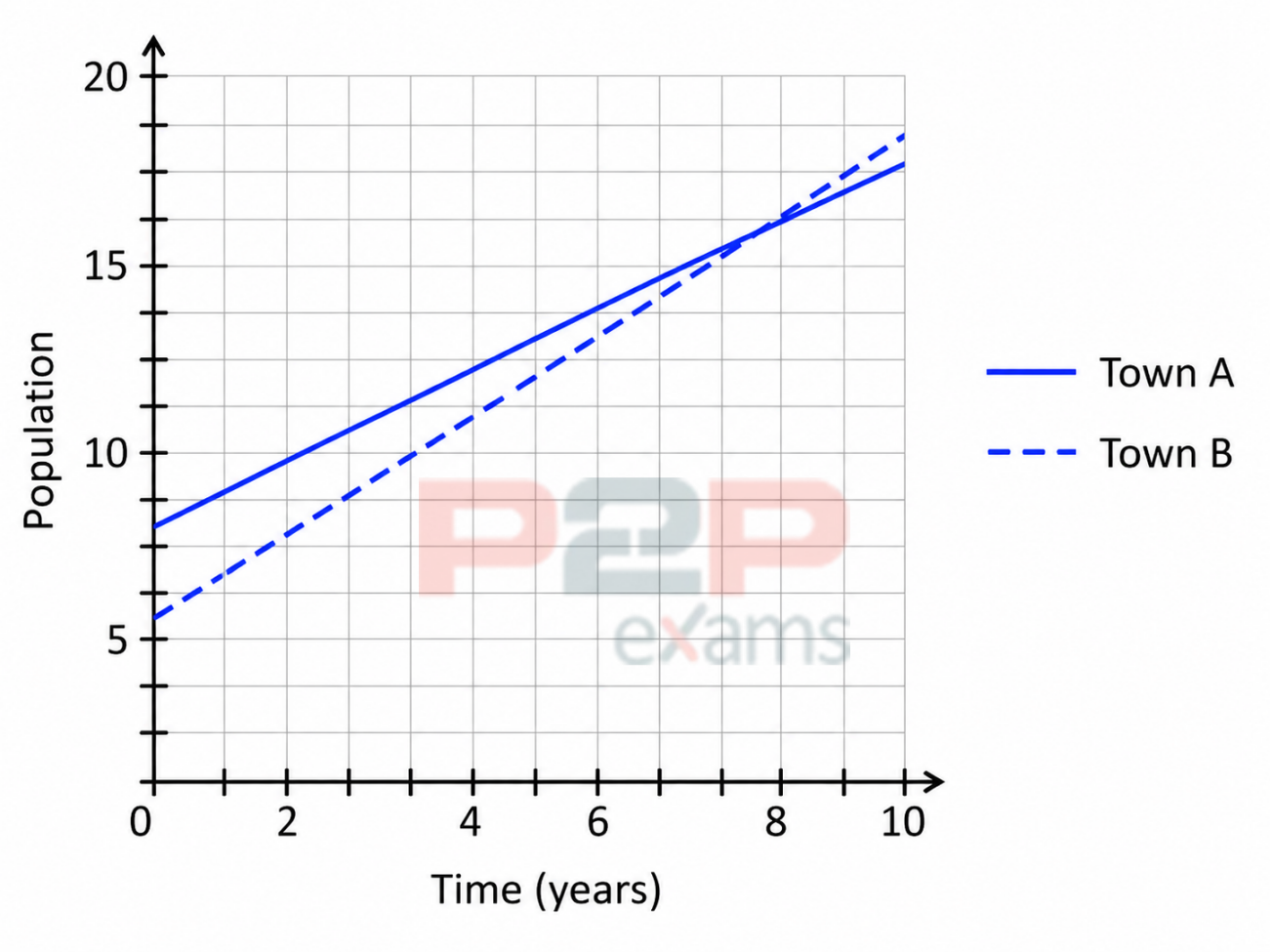
P2P exams

Question 2

Question Type: MultipleChoice

The populations, in thousands, of two towns are shown in the graph, where the horizontal axis measures the time in years.

P2P exams



Which town's population is growing at a faster rate?

Options:

A- Town A, because
B- Town B, because
C- Approximately 20 years after opening, a maximum daily profit of approximately was earned.
D- Approximately 9.5 years after opening, a maximum daily profit of approximately was earned.

Answer:

D

Explanation:

This question asks which town's population is growing at a faster rate.

Since both population graphs are straight lines, we compare their slopes.

The slope of a line represents the rate of change:

From the graph:

Town A starts at about thousand people and increases at a rate of about thousand people per year.

Town B starts at about thousand people and increases at a rate of about thousand people per year.

Even though Town A starts with a larger population, the question asks about the growth rate, not the starting population.

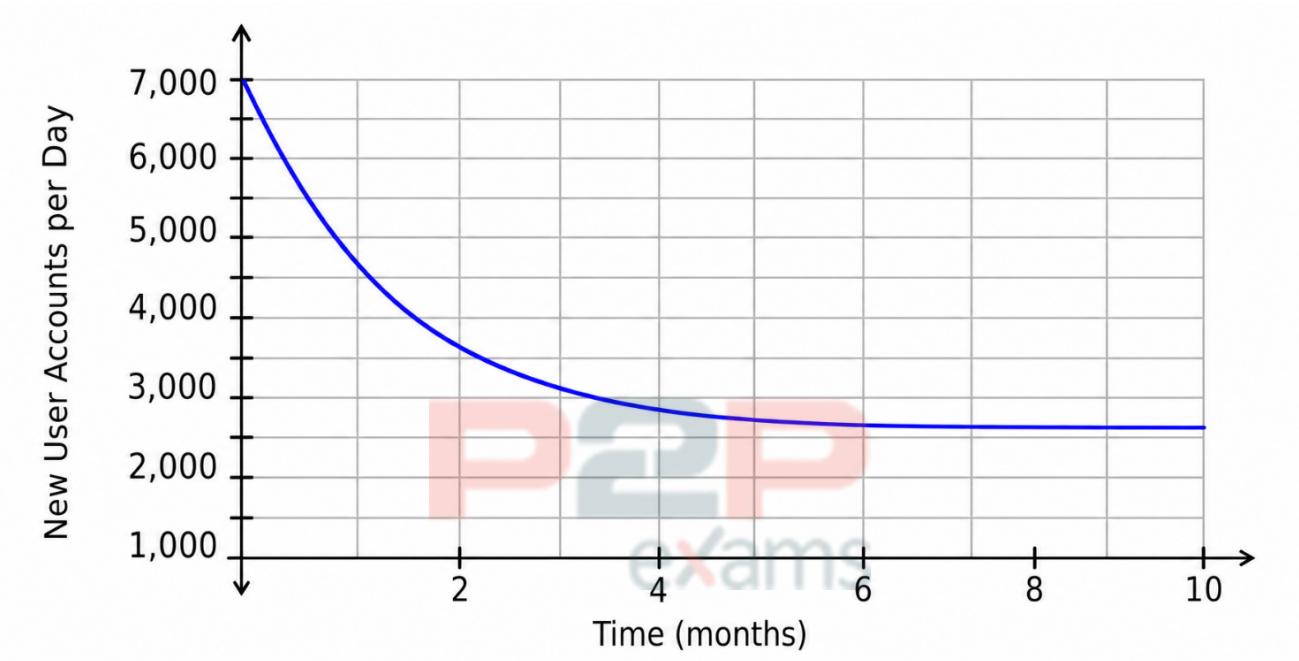
Compare the rates:

So Town B is growing faster than Town A.

Question 3

Question Type: MultipleChoice

The number of new user accounts per day on a website is modeled by a decreasing exponential function. The graph of the function is shown.



Which statement is justified considering the location of the horizontal asymptote?

Options:

A- The number of daily new user accounts will change by a constant rate over time.
B- The greatest number of daily new user accounts occurs after 10 months.
C- The number of daily new user accounts will not decrease to 0.
D- The number of daily new user accounts changes the most after the first 5 months.

Answer:

C

Explanation:

The graph shows a decreasing exponential function.

The horizontal axis represents:

The vertical axis represents:

The graph starts near new user accounts per day and decreases over time. However, it does not decrease toward . Instead, the graph levels off near a horizontal value around:

This horizontal value is the horizontal asymptote.

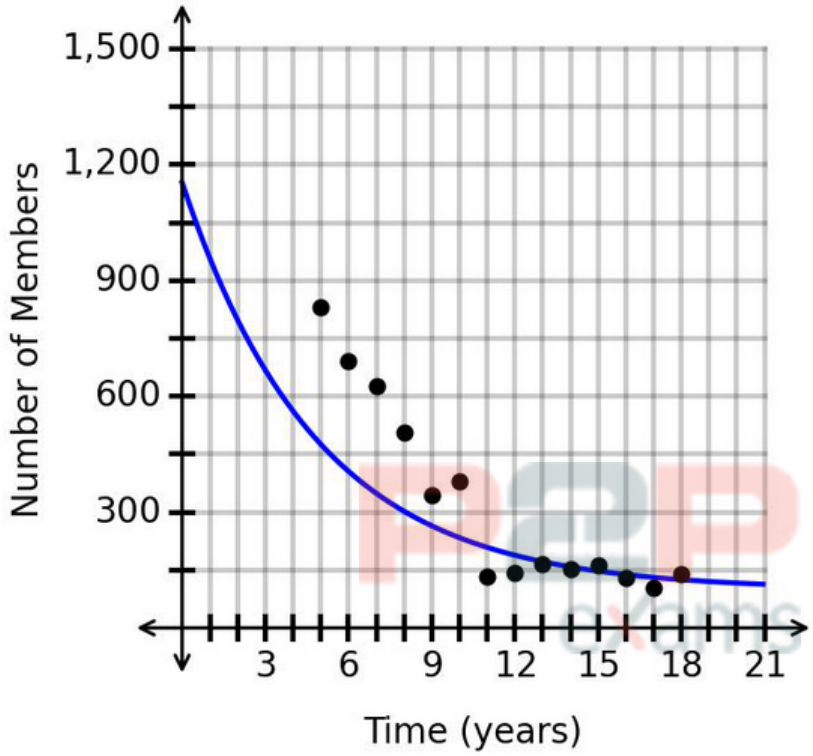
A horizontal asymptote shows the long-term value the function approaches. Since the asymptote is above , the model predicts that the number of daily new user accounts approaches a positive value, not zero.

So the justified statement is:

Question 4

Question Type: MultipleChoice

A researcher collected data on the number of members in a national association over time. The results are shown in the scatterplot. The graphed regression function has an value of .



Is it appropriate to make a prediction for the number of members after years?

Options:

A- No. The value indicates a moderate fit, but is more than of the range beyond the maximum value.
B- Yes. The value indicates a strong fit, and is within of the range of the maximum value.
C- Yes. The value indicates a moderate fit, and is within of the range of the maximum value.
D- No. The value indicates a strong fit, but is more than of the range beyond the maximum value.

Answer:

C

Explanation:

The regression function has:

This indicates a moderate fit, not a strong fit. The model explains some of the variation in the data, but not as strongly as a model with an value closer to .

Now consider the prediction at:

From the scatterplot, the observed data values extend to about:

The prediction at is beyond the observed data, so it is an extrapolation. However, it is not very

far beyond the data range.

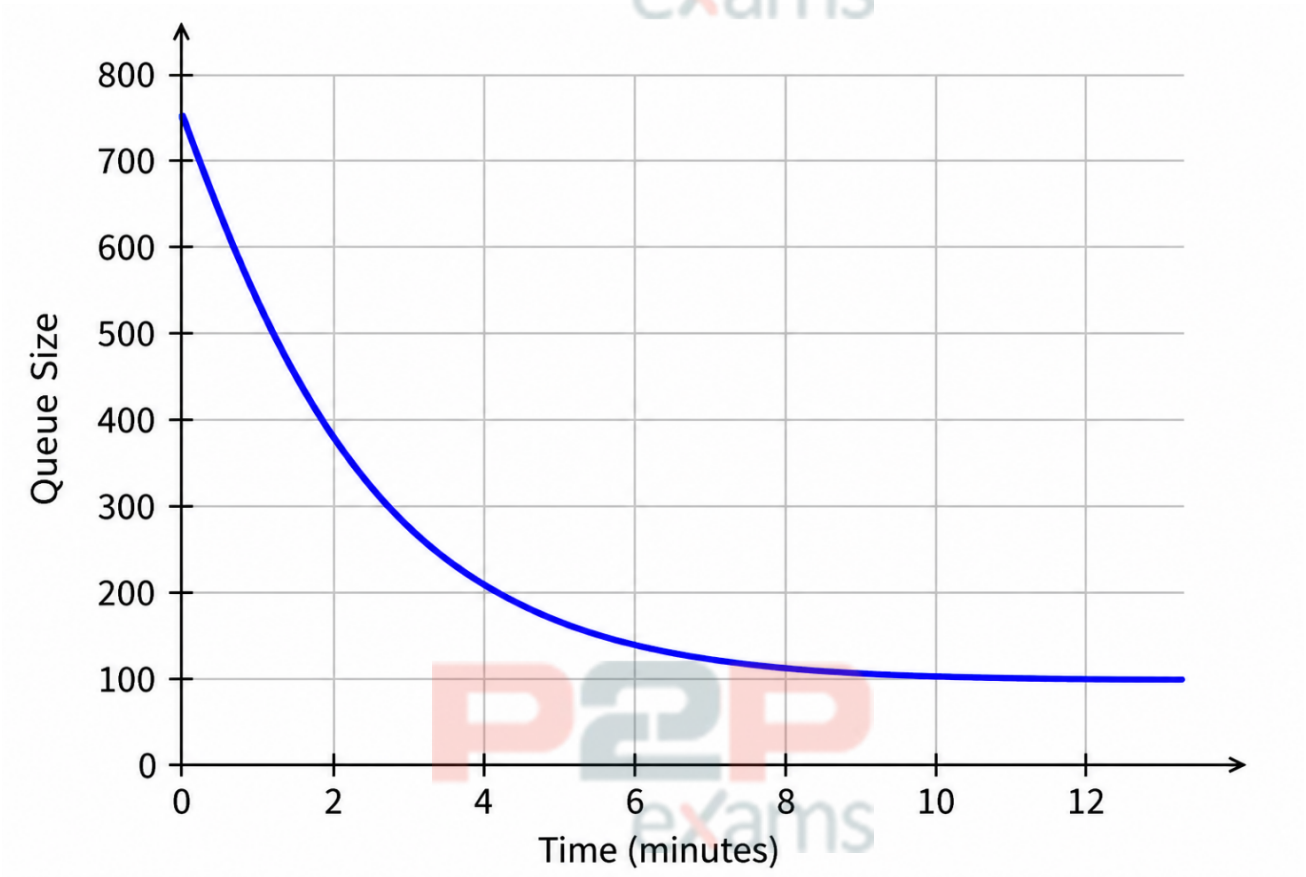
Because is within a reasonable extrapolation range and the model has a moderate fit, the prediction is appropriate.

Question 5

Question Type: MultipleChoice

The graph shows the number of people waiting in a virtual queue to buy tickets for an event.

What does the horizontal asymptote mean?



Options:

A- Eventually, the number of people in the queue will decrease to 0.
B- Over time, the number of people in the queue will increase back up to 750.
C- The number of people in the queue was initially 750.
D- As time passes, the number of people in the queue approaches 100.

Answer:

D

Explanation:

The graph shows the queue size changing over time.

The horizontal axis represents:

The vertical axis represents:

The graph is a decreasing exponential curve. It starts near people and decreases quickly at first. Then the curve begins to flatten near:

A horizontal asymptote is the horizontal line that the graph approaches as time continues.

Here, the graph approaches the horizontal line:

This means that as time passes, the number of people in the virtual queue gets closer and closer to .

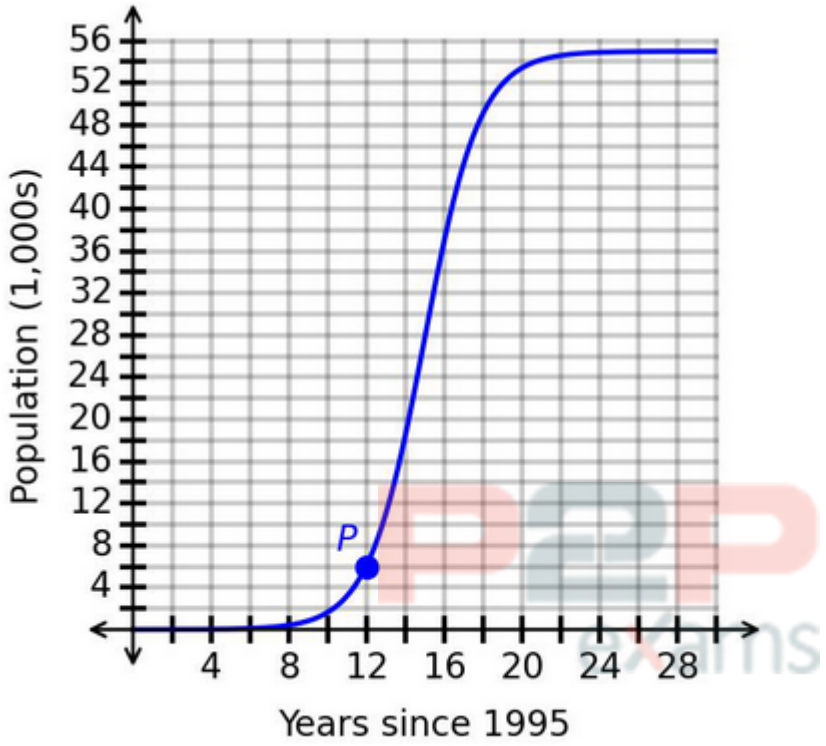
It does not mean the queue decreases to , because the graph levels off near , not near .

Therefore, the correct interpretation is:

Question 6

Question Type: MultipleChoice

The growth of an animal population is shown in the graph. The instantaneous rate of change at point is .



Which interpretation of the instantaneous rate of change is correct?

Options:

A- In 2012, the population was increasing by 3.74 animals per year.
B- In 2012, the population was increasing by 3,740 animals per year.
C- In 2007, the population was increasing by 3,740 animals per year.
D- In 2007, the population was increasing by 3.74 animals per year.

Answer:

C

Explanation:

The graph shows population in thousands, and the horizontal axis represents:

Point is located at approximately:

Since represents years since 1995:

So point corresponds to the year:

The instantaneous rate of change at point is:

Because the vertical axis is measured in thousands, this means:

Convert thousands to actual animals:

So in 2007, the population was increasing by approximately:

Question 7

Question Type: MultipleChoice

The function

represents the number of active shopping carts, , on a website hours after 8:00 a.m.

What is the difference between and ?

Options:

A- Approximately 1 hour
B- Approximately 1 active cart
C- Approximately 2 hours
D- Approximately 2 active carts

Answer:

B

Explanation:

The function gives the number of active shopping carts on a website.

Because represents active carts, the difference between and will be measured in:

not hours.

First evaluate :

Now evaluate :

Now find the difference:

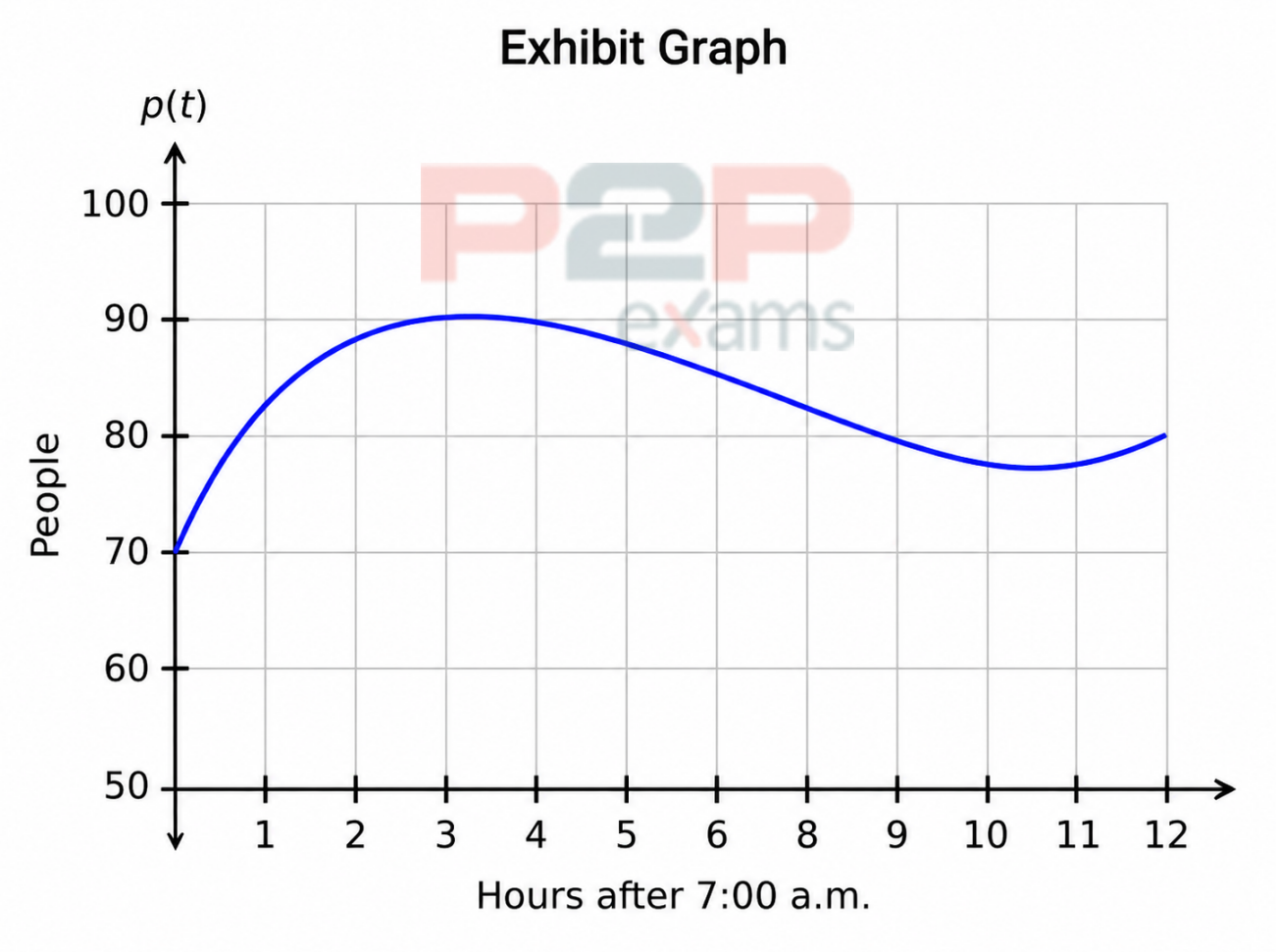
This is approximately:

Therefore, the correct answer is:

Question 8

Question Type: MultipleChoice

The figure shows the graph of , which represents the number of people, , at a gym hours after 7:00 a.m.



How should the concavity between and be interpreted?

Options:

A- The number of people is increasing faster and faster.
B- The number of people is decreasing faster and faster.
C- The number of people is increasing slower and slower.
D- The number of people is decreasing slower and slower.

Answer:

C

Explanation:

The graph represents:

where:

The question asks about the concavity of the graph between:

and

On this interval, the graph is still going upward, so the number of people is increasing.

However, the graph is beginning to flatten as it approaches its highest point. That means the slope is positive, but the slope is getting smaller.

In other words:

This is called concave down behavior. For a concave down graph that is increasing, the correct interpretation is:

Therefore, the correct answer is:

Question 9

Question Type: MultipleChoice

The weight of a radioactive sample is given by the function

where is the time, in years, and is the weight of the sample, in ounces.

What is the weight of the sample when ?

Options:

A- The number of daily new user accounts will change by a constant rate over time.
B- The rate of change in water volume quickens over time.
C- oz.
D- The water volume will change by a constant rate over time.

Answer:

C

Explanation:

The function is:

This is an exponential decay function because the base is between 0 and 1:

That means the sample's weight decreases over time.

We need to find the weight when:

Substitute into the function:

First calculate the exponent:

Now multiply by :

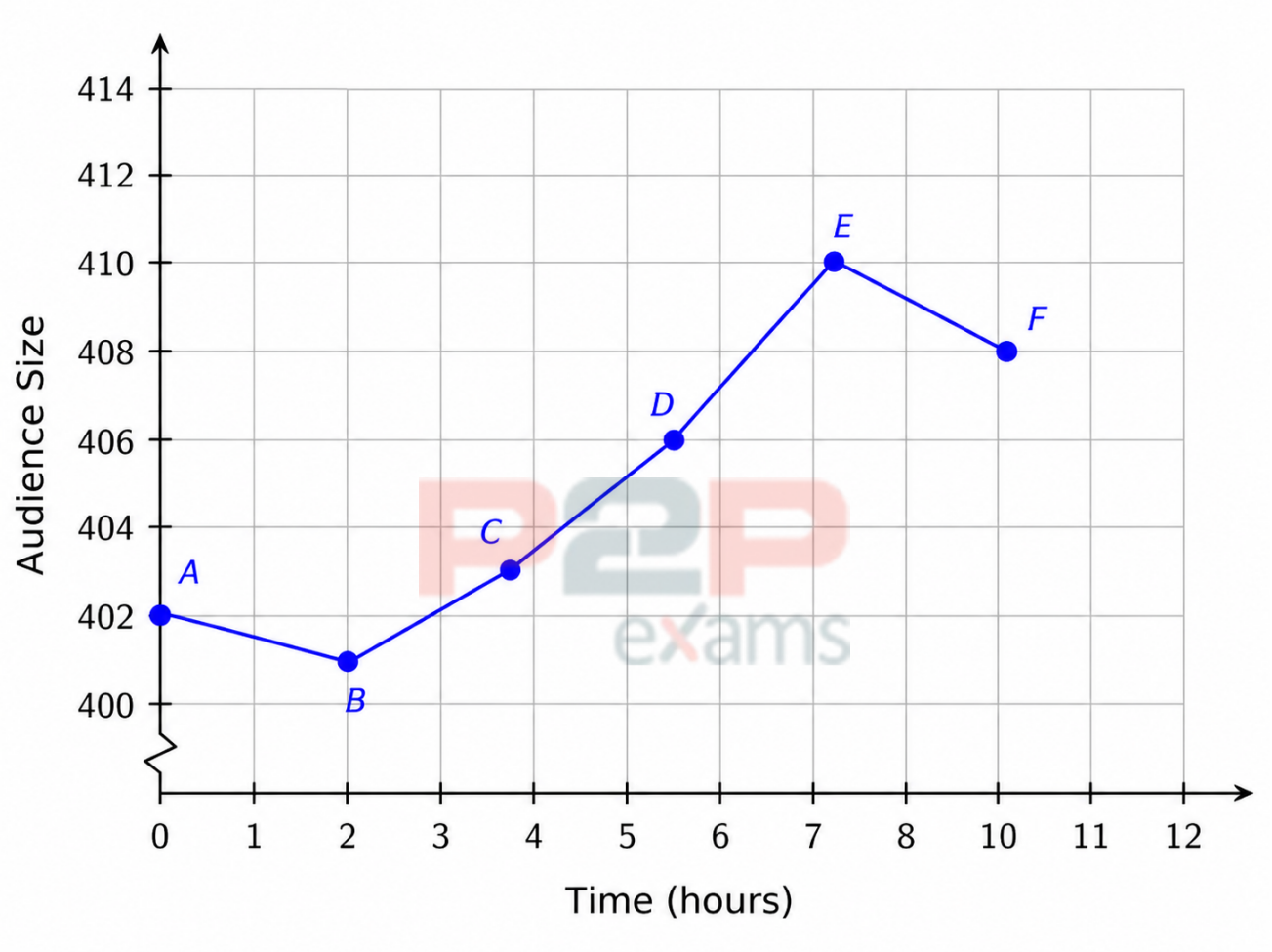
Rounded to two decimal places:

So the weight of the radioactive sample after 3 years is approximately:

Question 10

Question Type: MultipleChoice

The number of people, , in a festival audience is represented by the graph, with the number of hours since the beginning of the festival along the horizontal axis and the size of the audience along the vertical axis.



Point represents an audience size of 402 for the first hour of the festival, or .

Which ordered pair represents a point on the graph?

Options:

A- (2401)
B- (4404)
C- (8409)
D- (10407)

Answer:

A

Explanation:

This question is about reading an ordered pair from a graph.

An ordered pair has the form:

where:

and

From the graph:

Point is at approximately

Point is at

Point is at

Point is at

Point is at approximately

Point is at

Now compare these graph points with the answer choices.

Choice A says:

This matches point on the graph exactly.

The other choices do not match the graph:

is incorrect because at , the graph shows about , not .

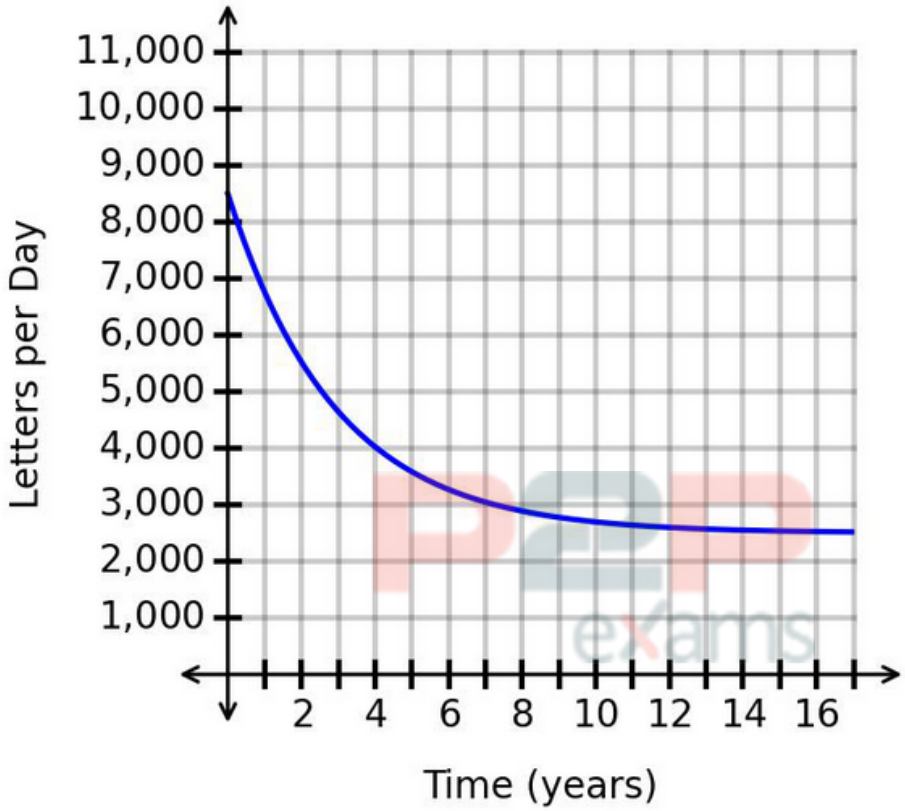
is incorrect because at , the graph is about , not .

is incorrect because at , the graph shows about , not .

Question 11

Question Type: MultipleChoice

The number of letters processed daily at a mail center is modeled by the decreasing exponential function shown in the graph.



Which value is the number of letters processed per day trending toward as time progresses, based on the equation of the horizontal asymptote?

Options:

A- 17
B- 2,500
C- 4,250
D- 8,500

Answer:

B

Explanation:

The graph shows a decreasing exponential function.

The vertical axis represents:

The horizontal axis represents:

For an exponential decay graph, the value decreases quickly at first and then begins to level off. The value it approaches in the long run is called the horizontal asymptote.

From the graph, the curve levels off near:

So the number of letters processed per day is trending toward:

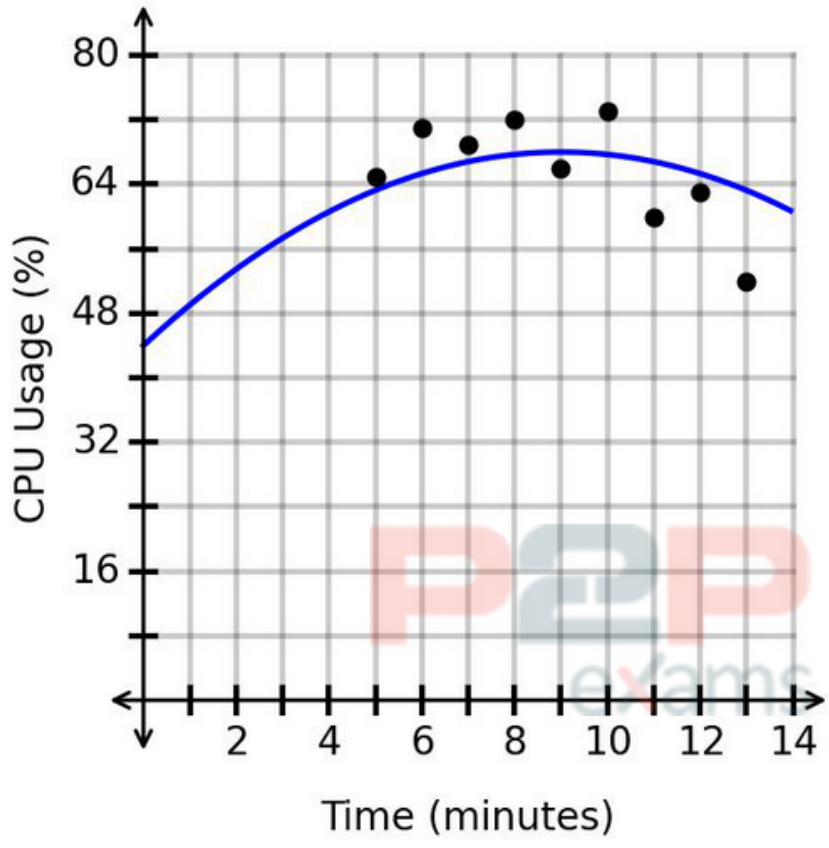
This does not mean the mail center immediately processes exactly 2,500 letters per day. It means that as time continues, the number gets closer and closer to 2,500.

Therefore, the correct answer is:

Question 12

Question Type: MultipleChoice

The scatterplot shows data on the usage of a computer's CPU over time. The graphed regression function has an value of .



What is the appropriate range of -values for extrapolation?

Options:

A- No. The value indicates a moderate fit, but is more than of the range beyond the maximum value.

B- to
C- Extrapolation is not appropriate because .
D- No. The value indicates a strong fit, but is more than of the range beyond the maximum value.

Answer:

C

Explanation:

The value measures how well a regression model fits the data.

Here:

This is a low value, meaning the model explains only about:

of the variation in the data.

That indicates a weak fit. When a model has a weak fit, using it for extrapolation is not reliable because predictions outside the data range may be very inaccurate.

Since:

the best conclusion is that extrapolation is not appropriate because the regression model does not fit the data well enough.

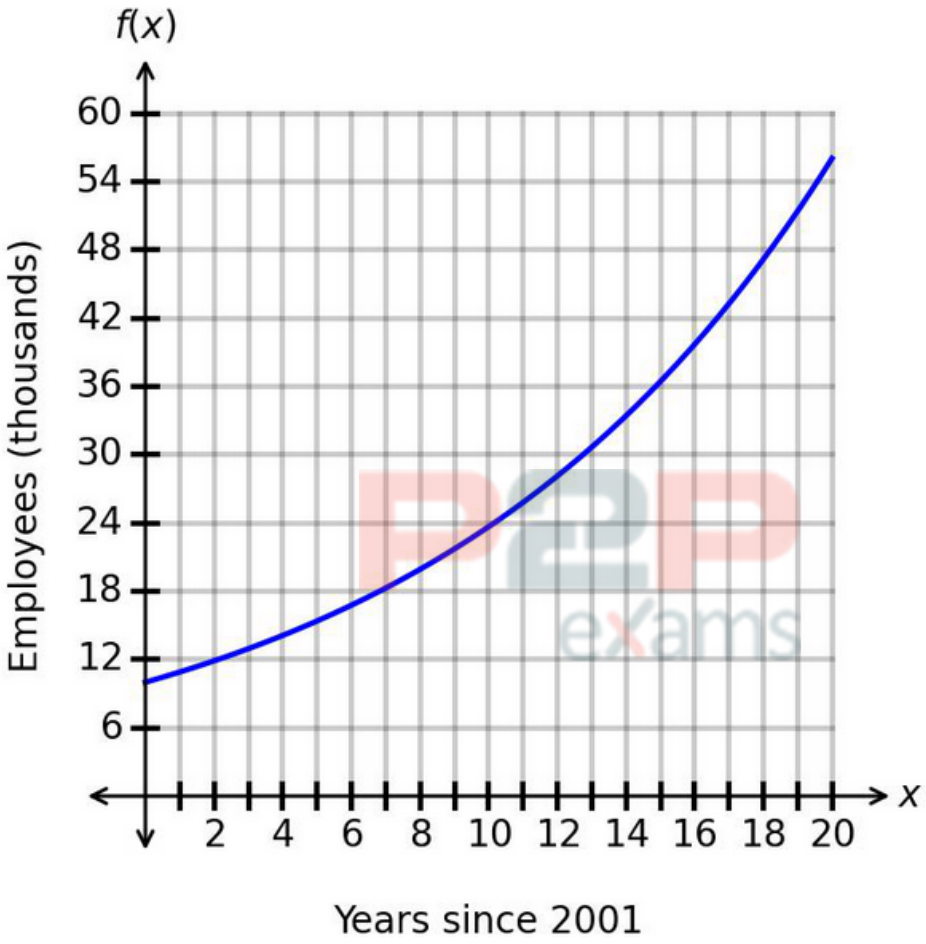
Therefore, the correct answer is:

Question 13

Question Type: MultipleChoice

Based on collected data, the number of employees at a firm can be modeled using the function

whose graph is shown, where represents the number of years since 2001 and represents the number of employees, in thousands.



Which time period has the fastest average increase in the number of employees?

Options:

A- 2001 to 2003
B- 2001 to 2016
C- 2005 to 2019
D- 2013 to 2021

Answer:

D

Explanation:

The function is:

This is an exponential growth function because:

For an exponential growth function, the rate of increase becomes larger as time passes. That means later intervals usually have faster average increases than earlier intervals.

Since represents years since 2001:

The latest interval is:

Because the graph is exponential growth and is steepest later in time, this interval has the fastest average increase.

P2P exams

P2P exams

To Get Premium Files for Applied-Algebra Visit

https://www.p2pexams.com/products/applied-algebra

For More Free Questions Visit

https://www.p2pexams.com/wgu/pdf/applied-algebra

