

# WGU

## Applied-Algebra

WGU Applied Algebra FX02 PFXP C957

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# Latest Version: 6.0

## Question: 1

The number of people auditioning for a game show is expected to be 4 times the number of people who auditioned last year. The function  $A(t)$  can be used to model the situation, where  $t$  represents the number of people who auditioned last year and  $A$  represents the number of people expected to audition this year.

Which quantity represents the number of people expected to audition this year, given that 330 people auditioned last year?

- A.  $A(1,320)=330$
- B.  $A(330)=1,320$
- C.  $A(330)=82$
- D.  $A(82)=330$

**Answer: B**

Explanation:

We are told that the number of people expected to audition this year is 4 times the number of people who auditioned last year.

Let:

$t$ =number of people who auditioned last year

and

$A(t)$ =number of people expected to audition this year

Since this year's number is 4 times last year's number, the function is:

$$A(t)=4t$$

The question says that 330 people auditioned last year, so:

$$t=330$$

Now substitute 330 into the function:

$$A(330)=4(330)$$

$$A(330)=1320$$

So, the correct function notation is:

$$A(330)=1,320$$

This means: when 330 people auditioned last year, 1,320 people are expected to audition this year.

Therefore, the correct answer is:

B

## Question: 2

A vehicle is traveling away from a town at a fixed rate. After 1 hours, the vehicle is 200 miles from the town. After 4 hours, the vehicle is 395 miles from the town.

Which function represents the distance,  $d$ , between the vehicle and the town after hours?

- A.  $d(t)=65t$
- B.  $d(t)=135t$
- C.  $d(t)=135t+65$
- D.  $d(t)=65t+135$

**Answer: D**

Explanation:

Because the vehicle is traveling away from the town at a fixed rate, the distance can be modeled by a linear function:

where:

and

We are given two points:

and

These mean:

After hour, the vehicle is miles away.

After hours, the vehicle is miles away.

First, find the rate of change:

So the vehicle is moving away from the town at a rate of:

Now the function has the form:

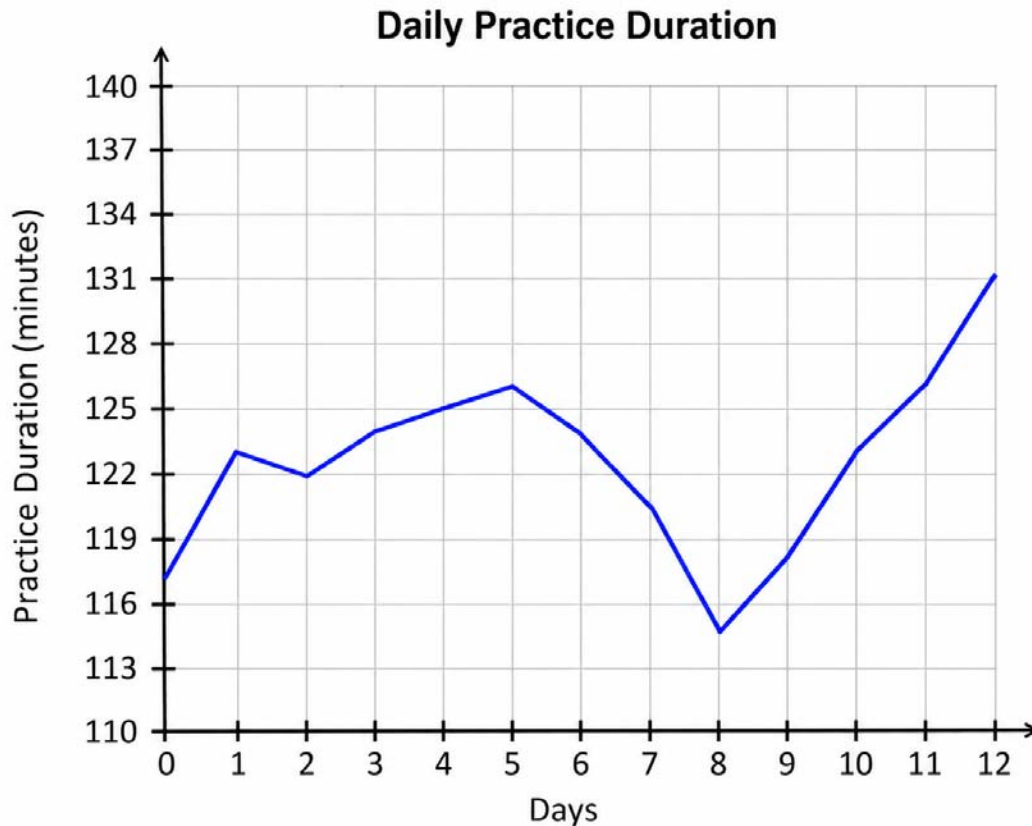
Use the point to find :

Therefore, the function is:

Check using :

### Question: 3

The graph shows the daily practice duration for a musician, where the number of days since the beginning of the month is along the horizontal axis and the number of minutes practiced per day is along the vertical axis.



Based on the graph, what was the practice duration for day 8?

- A. 115 minutes
- B. 117 minutes
- C. 118 minutes
- D. 120 minutes

**Answer: A**

Explanation:

This question asks us to interpret a value from a graph.

The horizontal axis represents:

Days

The vertical axis represents:

Practice duration in minutes

We need to find the practice duration on day 8.

To do this:

Locate 8 on the horizontal axis.

Move vertically until you reach the blue graph.

Read the corresponding value on the vertical axis.

From the graph, when:

$x=8$

the blue graph is at:

$y=115$

So the musician practiced for:

115 minutes

### Question: 4

The number of property sales in a region this year is expected to be 6 less than the number of property sales in the region last year. The function represents the number of property sales this year, where represents the number of properties sold last year.

Which notation represents the number of property sales this year, given that the number of properties sold last year was 330?

- A.  $H(330)=324$
- B.  $H(324)=330$
- C.  $H(330)=336$
- D.  $H(336)=330$

**Answer: A**

Explanation:

We are told that this year's number of property sales is 6 less than last year's number of property sales.

Let:

and

Since this year's sales are 6 less than last year's sales, the function rule is:

The question says that the number of properties sold last year was:

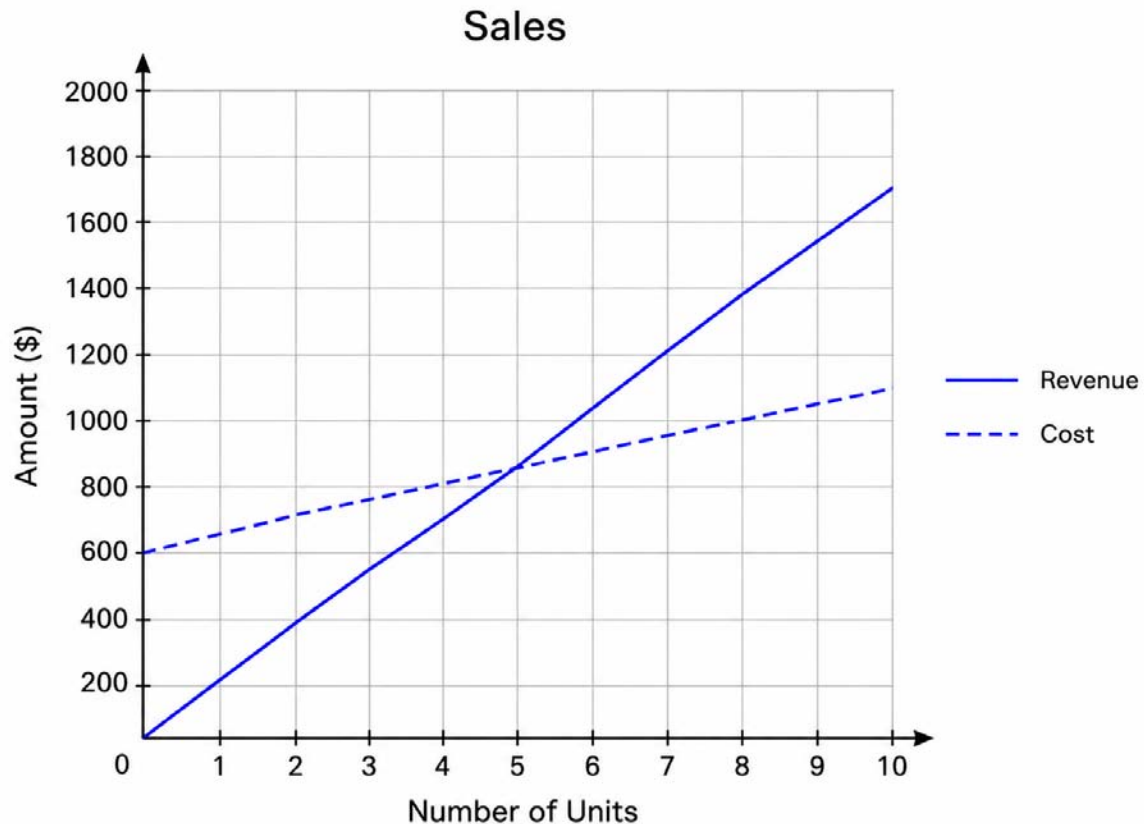
Substitute into the function:

So the notation that correctly represents the number of property sales this year is:

This means: if 330 properties were sold last year, then 324 properties are expected to be sold this year.

### Question: 5

A person makes down quilts to sell.



The graph shows the functions that model the cost and revenue.  
 How many down quilts need to sell to break even/start making a profit?

- A. 2
- B. 6
- C. 8
- D. 10

**Answer: B**

Explanation:

This question asks us to interpret a graph showing cost and revenue.

In Applied Algebra, the break-even point is where:

On a graph, this happens where the revenue line and the cost line intersect.

From the graph:

The solid blue line represents revenue.

The dashed blue line represents cost.

The break-even point occurs where these two lines cross.

Looking carefully at the graph, the two lines intersect at approximately:

The horizontal axis represents the number of units, meaning the number of down quilts sold.

So the person needs to sell about:

to break even.

After selling more than 6 quilts, the revenue line is above the cost line, meaning the person begins making a profit.

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