I

35:00

II

Section 2, Module 2: Math

Annotate

1

Mark for Review

What is 18% of 400?

III

IV

TEST QUBE

Question 1 of 22 >

Section 2, Module 2: Math

Annotate

2

Mark for Review

V

Ben is planning to print 110 pages of documents at a print shop. c pages should be printed in color, and the rest should be printed in gray-scale. The print shop charges 1.5 dollars for printing a colored page, and 0.5 dollars for printing a gray-scale page. Which expression best describes the total price of Ben's printing in dollars?

VI

(A) $1.5c + 0.5(110 - c)$

(B) $1.5c - 0.5(110 + c)$

(C) $0.5c + 1.5(110 - c)$

(D) $0.5c + 1.5(110 + c)$

VII

TEST QUBE

Question 2 of 22 >

Section 2, Module 2: Math

Annotate

3

Mark for Review

$x - 2y = 11$

$2y = 15$

The solution for the given system of equations is (x, y). What is xy?

(A) 15

(B) 97.5

(C) 150

(D) 195

TEST QUBE

Question 3 of 22 >

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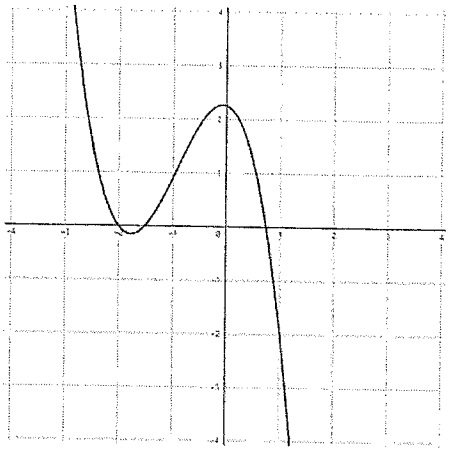
Section 2, Module 2: Math

Annotate

4

Mark for Review



The graph of $y = f(x)$ is shown above. How many distinct real solutions does $f(x) = 0$ have?

(A) 0 (A)

(B) 1 (B)

(C) 2 (C)

(D) 3 (D)

TEST QUBE Question 4 of 22 >

Section 2, Module 2: Math

Annotate

5

Mark for Review

Oliver spent 29.6 dollars when he purchased 8 bottles of orange and prune juice at a grocery store. The price of orange juice and prune juice are 3.40 and 4.00 dollars per bottle, respectively. What is the number of bottles of orange juice Oliver bought?

(A) 3 (A)

(B) 4 (B)

(C) 5 (C)

(D) 6 (D)

TEST QUBE Question 5 of 22 >

Section 2, Module 2: Math

Annotate

6

Mark for Review

Which is an equivalent form of $15x(xy)^3$?

(A) $15x^4y^3$ (A)

(B) $15x^2y$ (B)

(C) $15xy^3$ (C)

(D) $15y(xy)^3$ (D)

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I

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VII

Section 2, Module 2: Math

Annotate

7

Mark for Review

The daily revenue of a movie theater is directly proportional to t, the number of tickets sold. If the theater's revenue on a certain day was $7.95t$ dollars, which of the choices best suggests the meaning of the number 7.95 in this context?

(A) The number of tickets sold on that day

(B) The annual average revenue of the movie theater

(C) The number of movies showing at the theater

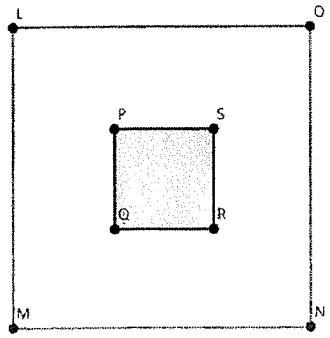
(D) The price per ticket

Section 2, Module 2: Math

Annotate

8

Mark for Review



A square-bottomed monument is surrounded by a square-shaped plaza with a three times longer side length. The area of the plaza excluding the bottom of the monument is 720 square feet. What is the area of the bottom of the monument in square feet?

(A) 40

(B) 90

(C) 240

(D) 270

Section 2, Module 2: Math

Annotate

9

Mark for Review

Each side of a fair 12-sided die has a unique integer between -6 and 5. What is the probability of rolling a positive integer when the die is rolled once?

(A) $\frac{1}{12}$ (A)

(B) $\frac{2}{12}$ (B)

(C) $\frac{5}{12}$ (C)

(D) $\frac{6}{12}$ (D)

TESTQUBE Question 9 of 22 >

Section 2, Module 2: Math

Annotate

10

Mark for Review

The speed of a broken probe satellite, $S(x)$, is 10% faster every day after the breakage. If x represents the days past the date of the breakage, which choice best models $S(x)$ if the speed of the satellite was initially $1,500$ km/h?

(A) $S(x) = 1,500(1.1)x$ (A)

(B) $S(x) = 1,500(1.1)^x$ (B)

(C) $S(x) = 1,500x^{1.1}$ (C)

(D) $S(x) = 1,500^{1.1x}$ (D)

TESTQUBE Question 10 of 22 >

Section 2, Module 2: Math

Annotate

11

Mark for Review

A turtle spends 75% of its lifetime in the water. If the turtle lived 80 years, how many years did it spend in the water?

(A) 20 (A)

(B) 60 (B)

(C) 75 (C)

(D) 80 (D)

TESTQUBE Question 11 of 22 >

Section 2, Module 2: Math

Annotate

12

Mark for Review

$y^2 = xy$

If $(x = b, y = 11)$ is one of the solutions for the given equation, what is the value of b?

TESTQUBE Question 12 of 22 > Back Next

I II III IV V VI VII

I

II

III

IV

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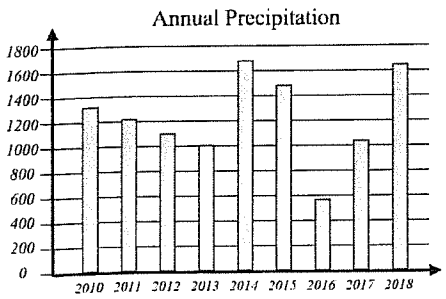
VII

Section 2, Module 2: Math

Annotate

13

Mark for Review



The chart shows the recorded annual precipitation of a certain city, in millimeters per year. From 2010 to 2018, in which year did the city experience the least amount of precipitation?

(A) 2012 ~~A~~

(B) 2014 ~~B~~

(C) 2016 ~~C~~

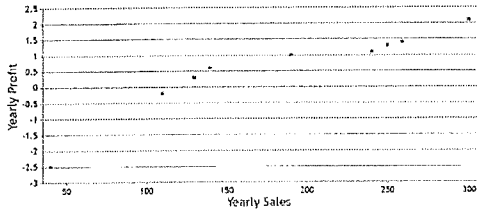
(D) 2018 ~~D~~

Section 2, Module 2: Math

Annotate

14

Mark for Review



The scatterplot is generated by analyzing a company's total sales, in thousand products, and the net profit, in million dollars, for each fiscal year over a nine-year period. A linear function $y = f(x)$ models the data where x and y represent the sales and profit, respectively. Which of the following descriptions of $f(x)$ is true?

(A) Both the slope and the y-intercept are positive. ~~A~~

(B) The slope is positive and the y-intercept is negative. ~~B~~

(C) The slope is negative and the y-intercept is positive. ~~C~~

(D) Both the slope and the y-intercept are negative. ~~D~~

Section 2, Module 2: Math

Annotate

15 Mark for Review

Last winter, Alexia visited a ski resort x times to take ski lessons. At every visit, she paid l dollars to take a lesson. In addition, she paid m dollars registration fee on her first visit. What is the average payment, in dollars, that Alexia made to the ski resort last winter?

(A) $\frac{m+x}{l}$ (A)

(B) $\frac{m-x}{l}$ (B)

(C) $\frac{m+lx}{x}$ (C)

(D) $\frac{m+l}{mx}$ (D)

TESTQUBE Question 15 of 22 >

Section 2, Module 2: Math

Annotate

16 Mark for Review

The carbon footprint of a product is defined as the volume of total carbon dioxide emitted to make, process, and ship the product. 1kg of beef is proven to have 83 cubic meters of carbon footprint. Assuming that 1 meter is equivalent to 3.3 feet, which of the following values is closest to the carbon footprint in cubic feet that 1kg of beef has?

(A) 36 (A)

(B) 280 (B)

(C) 900 (C)

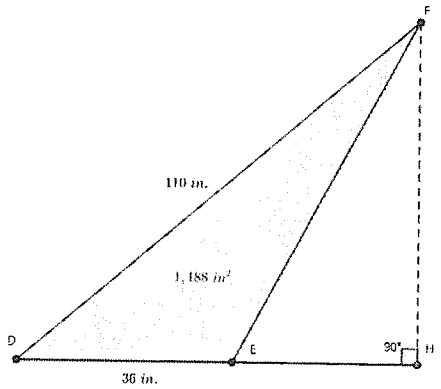
(D) $3,000$ (D)

TESTQUBE Question 16 of 22 >

Section 2, Module 2: Math

Annotate

17 Mark for Review



In a scalene triangle DEF, the longest side length DF equals 110 inches. DE equals 36 inches and the area of DEF equals $1,188$ square inches. What is the value of $\sin(D)$?

(A) $\frac{36}{110}$ (A)

(B) $\frac{110}{1188}$ (B)

(C) $\frac{66}{1188}$ (C)

(D) $\frac{66}{110}$ (D)

TESTQUBE Question 17 of 22 > Back Next

I

Section 2, Module 2: Math

Annotate

18

Mark for Review

II

$\begin{cases} y = x^2 + 2x + 1 \\ y = -4 \end{cases}$

How many sets of real solutions does the given set of equations have?

III

(A) 0 (A)

(B) 1 (B)

(C) 2 (C)

(D) Infinitely many (D)

IV

TESTBQUBE Question 18 of 22 >

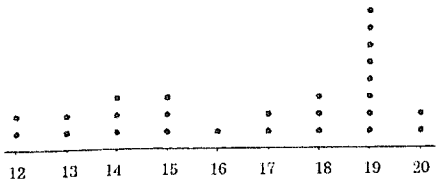
Section 2, Module 2: Math

Annotate

19

Mark for Review

V



VI

The given dot plot shows the distribution of test scores, out of 20, of 26 students in Hannah's class. What is the mode of the scores of Hannah's classmates?

VII

TESTBQUBE Question 19 of 22 >

Section 2, Module 2: Math

Annotate

20

Mark for Review

What is the value of $\sqrt{x^2 + 3} + 3$ when $x = -1$?

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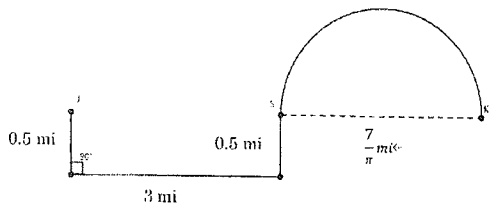
Annotate

21

Mark for Review



Josh and Kimberly left their respective home at the same time for school S. From Josh's home, J, he drove 0.5 miles south, turned 90 degrees left, drove 3 miles, turned 90 degrees left, and drove 0.5 miles. From Kimberly's home, K, she drove along a semicircular road with a diameter of $\frac{7}{\pi}$ miles. Assuming that the average driving speeds of Josh and Kimberly are the same, who arrived at the school first?

(A) Josh

(B) Kimberly

(C) Both arrived at the same time.

(D) There is not enough information provided.

Section 2, Module 2: Math

Annotate

22

Mark for Review

$g(x)$ is defined as the largest possible integer that is less than or equal to x. A page of a certain academic paper contains 240 words at maximum. Which choice does the most appropriately represent the minimum number of pages of the academic paper that contains 1890 words?

(A) $g(1890)$

(B) $g(240)$

(C) $g(\frac{240}{1890})+1$

(D) $g(\frac{1890}{240})+1$