I

35:00

Section 2, Module 1: Math — Annotate

1 — Mark for Review

II

Which of the following points represent the intersections of the function $f(x) = 3x^2 + 36x + 96$ with the x axis?

III

(A) $(4, 0)$ (A)

(B) $(0, -4)$ (B)

(C) $(-8, 0)$ (C)

(D) $(0, 0)$ (D)

IV

TESTQUBE Question 1 of 22 >

Section 2, Module 1: Math — Annotate

3 — Mark for Review

James created a unique shape by combining without overlapping three identical equilateral triangles. If each triangle has a side length of 10 centimeters, what is the **closest** total area of this special shape?

(A) $140\,cm^2$ (A)

(B) $43.30\,cm^2$ (B)

(C) $129.90\,cm^2$ (C)

(D) $229.90\,cm^2$ (D)

TESTQUBE Question 3 of 22 >

V

Section 2, Module 1: Math — Annotate

2 — Mark for Review

Jimmy is booking a hotel which costs \$80 per night and a \$100 one-time fee. Considering Jimmy's budget of \$1200, what is the maximum number of days Jimmy can stay at the hotel?

VI

(A) 12 (A)

(B) 13 (B)

(C) 14 (C)

(D) 15 (D)

VII

TESTQUBE Question 2 of 22 >

Section 2, Module 1: Math — Annotate

4 — Mark for Review

A bag contains 18 marbles, 13 of which are red and 5 of which are blue. Three marbles are drawn at random, without replacement. What is the probability that all three marbles are red?

(A) $1/18$ (A)

(B) $143/408$ (B)

(C) $13/126$ (C)

(D) $1/4$ (D)

TESTQUBE Question 4 of 22 > Back Next

Section 2, Module 1: Math

Annotate

5

Mark for Review

In a random selection of 230 voters, they were asked about their satisfaction with a policy. Out of these voters, 80 expressed dissatisfaction. If a total of 17, 250 people were to vote for the policy, what is the best estimate of votes that indicate satisfaction with the policy?

(A) 11250 (A)

(B) 6000 (B)

(C) 16470 (C)

(D) 8000 (D)

TEST QUBE Question 5 of 22 >

Section 2, Module 1: Math

Annotate

6

Mark for Review

In triangle ABC, the following information is given: Angle B measures 90 degrees, and Angle C measures 30 degrees. If the length of side AB is 20, what is the length of side AC?

(A) $20\sqrt{3}$ (A)

(B) 40 (B)

(C) 60 (C)

(D) 15 (D)

TEST QUBE Question 6 of 22 >

Section 2, Module 1: Math

Annotate

7

Mark for Review

What is the product of the solutions for x in the given equation?

$$x(x+8) = 4x^2 + 45x + 20$$

(A) $37/3$ (A)

(B) 37 (B)

(C) $20/3$ (C)

(D) 20 (D)

TEST QUBE Question 7 of 22 > Back Next

I II III IV V VI VII

I

II

III

IV

V

VI

VII

Section 2, Module 1: Math

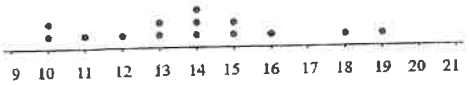
Annotate

8

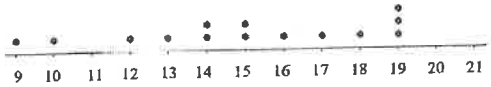
Mark for Review

Based on the dot plot provided, which of the following descriptions best characterizes the distribution of data sets A and B?

Data set A:



Data set B:



(A) Data set A has greater mean and standard deviation than Data set B.

(B) Data set A has greater mean but lower standard deviation than Data set B.

(C) Data set A has smaller mean but greater standard deviation than Data set B.

(D) Data set A has smaller mean and standard deviation than Data set B.

TESTBQUBE Question 8 of 22 >

Section 2, Module 1: Math

Annotate

9

Mark for Review

The given function $f(x) = (x + 4)(x + 3)$ is translated up by 3 units. At which y-coordinate does this graph intersect $x = 3$?

(A) 45

(B) 48

(C) 50

(D) 52

TESTBQUBE Question 9 of 22 >

Section 2, Module 1: Math

Annotate

10

Mark for Review

If $2x + 4 = 12$, what is the value of $x + 9$?

TESTBQUBE Question 10 of 22 > Back Next

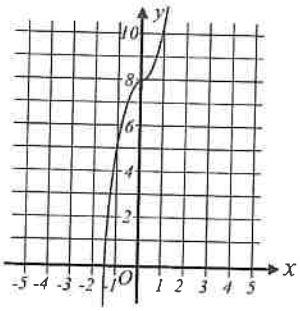
Section 2, Module 1: Math

Annotate

11

Mark for Review

What is the y-intercept for the given graph below?



(A) 8 (A)

(B) 7 (B)

(C) 1 (C)

(D) −1 (D)

TEST QUBE Question 11 of 22 >

Section 2, Module 1: Math

Annotate

12

Mark for Review

Chris rides his bicycle at a constant speed of 30 feet per minute. How long, in seconds, does it approximately take him to reach a point that is 70 feet away?

(A) 125 (A)

(B) 130 (B)

(C) 140 (C)

(D) 160 (D)

TEST QUBE Question 12 of 22 >

Section 2, Module 1: Math

Annotate

13

Mark for Review

The length of the garden is 20 meters, and it is 20% longer than its width. What is the approximate width of the garden in meters? (Round your answer to the nearest tenth.)

TEST QUBE Question 13 of 22 > Back Next

I II III IV V VI VII

I

Section 2, Module 1: Math

Annotate

14

Mark for Review

II

James boards a train leaving a station at 10 : 00 AM and observes that the train is traveling at a speed of 60 miles per hour. Meanwhile, Eve boards another train from the same station, departing one hour later, and her train travels in the same direction at a speed of 70 miles per hour. What time will Eve's train catch up to James' train?

III

(A) 1 : 00 PM (A)

(B) 2 : 30 PM (B)

(C) 4 : 00 PM (C)

(D) 5 : 00 PM (D)

IV

TESTBQUBE Question 14 of 22 >

Section 2, Module 1: Math

Annotate

15

Mark for Review

V

The store is selling a shirt for $20. The store is offering a 20% discount on the shirt. If there is a sales tax of 5% on the discounted price, what will be the final price of the shirt?

VI

(A) $15.00 (A)

(B) $15.20 (B)

(C) $16.00 (C)

(D) $16.80 (D)

VII

TESTBQUBE Question 15 of 22 >

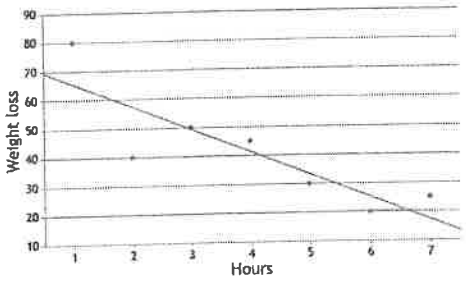
Section 2, Module 1: Math

Annotate

16

Mark for Review

The scatter plot provided illustrates the relationship between hours of exercise and the corresponding weight loss. Additionally, the graph includes a line of best fit as well. Which of the following best approximates the slope of the line of best fit?



(A) 8 (A)

(B) −8 (B)

(C) 10 (C)

(D) −10 (D)

TESTBQUBE Question 16 of 22 > Back Next

Section 2, Module 1: Math

Annotate

17

Mark for Review

For the quadratic function $f(x)$, $f(1) = 4$, $f(2) = 7$
Which equation could define $f(x)$?

(A) $f(x) = x^2 + 3$ (A)

(B) $f(x) = 2x^2 - 1$ (B)

(C) $f(x) = x^2 + x + 3$ (C)

(D) $f(x) = 3x^2 - 2$ (D)

TESTBQUBE Question 17 of 22 >

Section 2, Module 1: Math

Annotate

18

Mark for Review

A hotel has a rectangular swimming pool with dimensions 20 meters in length and 15 meters in width. The manager fills the pool with water to a depth of 2 meters. What is the volume of water in the pool, measured in cubic meters?

(A) 450 cubic meters (A)

(B) 400 cubic meters (B)

(C) 300 cubic meters (C)

(D) 600 cubic meters (D)

TESTBQUBE Question 18 of 22 >

Section 2, Module 1: Math

Annotate

19

Mark for Review

With the given system of equations
$2x + 3y = 25$
$x = 2y$

What is the value of x?

TESTBQUBE Question 19 of 22 > Back Next

I II III IV V VI VII

I II III IV V VI VII

Section 2, Module 1: Math

Annotate

20 Mark for Review

The table provided displays the preference distribution of students from three classes. If a student is chosen randomly from the total student population, what is the probability that the selected student prefers Math class?

	Math	English	Science	Total
Class A	40	20	15	75
Class B	80	50	30	160
Class C	30	10	20	60
Total	150	80	65	295

(A) $160/295$ (A)

(B) $60/295$ (B)

(C) $80/295$ (C)

(D) $150/295$ (D)

TEST QUBE Question 20 of 22 >

Section 2, Module 1: Math

Annotate

21 Mark for Review

Considering the given function $f(x) = 1.5x + 30$, if there exists a linear function g that is parallel to function f and intersects at the point $(-4, 2)$, what is the y-intercept of function g?

TEST QUBE Question 21 of 22 >

Section 2, Module 1: Math

Annotate

22 Mark for Review

Alice is trying to determine the optimal allocation of hours between her two jobs. She aims to work a total of 30 hours per week while earning \$300 in total. The first job offers a pay rate of \$5 per hour, and the second job pays \$15 per hour. How many hours should Alice work for the first job in order to achieve her desired earnings and total hours?

(A) 20 hours (A)

(B) 15 hours (B)

(C) 10 hours (C)

(D) 30 hours (D)

TEST QUBE Question 22 of 22 > Back Next

Move on to the Next Section