35:00

Section 2, Module 1: Math — Annotate

1 Mark for Review

$f(x)$ is defined by $f(x) = 2x - 12$. What is the value of x when $f(x) = 2$?

(A) -12 (A)

(B) -8 (B)

(C) 2 (C)

(D) 7 (D)

TESTQUBE Question 1 of 22 >

Section 2, Module 1: Math — Annotate

2 Mark for Review

Stephanie is planning to hold a party. She intends to spend no more than 140 dollars on decorating the party room and preparing the food. The room decoration costs 38 dollars regardless of the number of guests, and food preparation costs 9 dollars per guest. Which of the following expressions is most appropriate to find the maximum number of guests, g?

(A) $38 - 9g \leq 140$ (A)

(B) $38 + 9g \geq 140$ (B)

(C) $9 + 39g \leq 140$ (C)

(D) $38 + 9g \leq 140$ (D)

TESTQUBE Question 2 of 22 >

Section 2, Module 1: Math — Annotate

3 Mark for Review

Which of the following is a common factor of $x(x + 2)$ and $x^2 + 4x + 4$?

(A) x (A)

(B) x^2 (B)

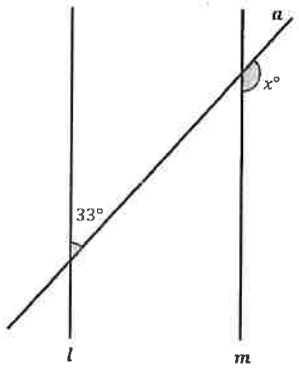
(C) $x + 2$ (C)

(D) $x + 4x + 4$ (D)

TESTQUBE Question 3 of 22 >

Section 2, Module 1: Math — Annotate

4 Mark for Review



Note: Figure Not Drawn to Scale

Line a intersects with parallel lines l and m in the diagram shown above. What is the value of x?

TESTQUBE Question 4 of 22 > Back Next

I II III IV V VI VII

I

Section 2, Module 1: Math — Annotate

5 — Mark for Review

What is the sum of two distinct real solutions for $x^2 - 6x - 16$?

II

III

IV

TEST QUBE — Question 5 of 22 >

Section 2, Module 1: Math — Annotate

7 — Mark for Review

Light travels at a constant speed of $300,000$ kilometers per second in a vacuum. However, the speed of light is halved in water. How long, in kilometers, would light travel in 10 seconds underwater?

(A) $3,000,000km$ (A)

(B) $1,500,000km$ (B)

(C) $750,000km$ (C)

(D) $300,000km$ (D)

TEST QUBE — Question 7 of 22 >

V

Section 2, Module 1: Math — Annotate

6 — Mark for Review

Each side of a right hexagon H whose area is $24\sqrt{3}$ is 4 units long. What is the area of a right hexagon J that has a side length of 2?

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

(B) $6\sqrt{3}$ (B)

VI

(C) $12\sqrt{3}$ (C)

(D) $48\sqrt{3}$ (D)

VII

TEST QUBE — Question 6 of 22 >

Section 2, Module 1: Math — Annotate

8 — Mark for Review

$y = -4x + 4$
$x - 1 = 16$
(x, y) is a solution for the given system of equations. What is the value of y?

(A) -1 (A)

(B) -4 (B)

(C) -16 (C)

(D) -64 (D)

TEST QUBE — Question 8 of 22 > Back Next

Section 2, Module 1: Math — Annotate

9 — Mark for Review

$11, 9, 17, 15, 3$

Data set S consists of five values as shown above. What is the mean value of data set S?

TESTQUBE Question 9 of 22 >

Section 2, Module 1: Math — Annotate

11 — Mark for Review

Which of the following expressions is equivalent to $2ab$?

(A) $\frac{a^2b^2}{2ab}$ (A)

(B) $\frac{2a^{-1}b}{b}$ (B)

(C) $\frac{2a}{b}$ (C)

(D) $\frac{2a^2}{ab^{-1}}$ (D)

TESTQUBE Question 11 of 22 >

Section 2, Module 1: Math — Annotate

10 — Mark for Review

The graphs of $y = \sqrt{x} - 2$ and $x = 4$ intersect at exactly one point $P(x, y)$. What is the value of y?

(A) -3 (A)

(B) 0 (B)

(C) 3 (C)

(D) 6 (D)

TESTQUBE Question 10 of 22 >

Section 2, Module 1: Math — Annotate

12 — Mark for Review

Nutrient	Calories per gram
Carbohydrate	4 kcal/g
Fat	9 kcal/g
Protein	4 kcal/g

The table above shows the calories for each nutrient: carbohydrate, fat, and protein. For example, 1 gram of protein contains 4 kcal. A serving of certain food consists of 30 grams of fat and carbohydrates together and contains no protein. If the food contains 210 kcal per serving, how many calories, in kcal, in a serving of the food are from fat?

TESTQUBE Question 12 of 22 > Back Next

I

II

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VII

Section 2, Module 1: Math

Annotate

13

Mark for Review

1 foot equals 12 inches. How much is 1 cubic foot (ft^3) in cubic inches?

(A) 12 (A)

(B) 144 (B)

(C) 1,728 (C)

(D) 20,736 (D)

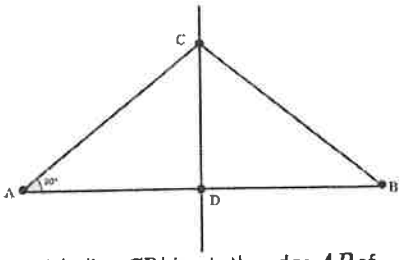
TESTSQUBE Question 13 of 22 >

Section 2, Module 1: Math

Annotate

14

Mark for Review



Straight line CD bisects the edge AB of an isosceles triangle ABC as shown. If the angle CAB is 30 degrees, what is the value, in radians, of angle ACD?

(A) $\frac{\pi}{3}$ (A)

(B) $\frac{\pi}{6}$ (B)

(C) $\frac{\pi}{2}$ (C)

(D) $\frac{2\pi}{3}$ (D)

TESTSQUBE Question 14 of 22 > Back Next

Section 2, Module 1: Math

Annotate

15

Mark for Review

$S(t) = 30 + 2t$

The formula above models the speed of a car t seconds after passing the speed enforcement camera in $\frac{miles}{hour}$. Find the speed of the car, in $\frac{miles}{hour}$, 3 seconds after the event.

TESTBQUBE Question 15 of 22 >

Section 2, Module 1: Math

Annotate

16

Mark for Review

Function g is defined by $g(x) = 1.5^x$. What is the value of x if $g(x) = 1.5$?

(A) 0 (A)

(B) 1 (B)

(C) 1.5 (C)

(D) 2 (D)

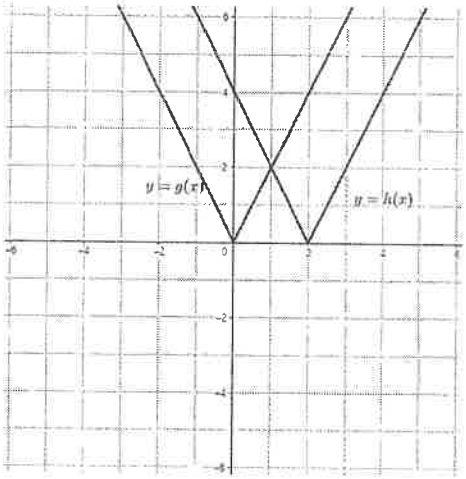
TESTBQUBE Question 16 of 22 >

Section 2, Module 1: Math

Annotate

17

Mark for Review



The graph of $g(x) = |2x|$ on the xy-plane is given. The graph of $h(x)$ is generated by pushing the graph of $g(x)$ by 2 units to the right. Which of the following correctly defines $h(x)$?

(A) $h(x) = |2x| + 2$ (A)

(B) $h(x) = |2(x + 2)|$ (B)

(C) $h(x) = |2(x - 2)|$ (C)

(D) $h(x) = |2x| - 2$ (D)

TESTBQUBE Question 17 of 22 > Back Next

I II III IV V VI VII

I

Section 2, Module 1: Math

Annotate

18

Mark for Review

Function f is defined by $f(x) = x^2 - 7$. What is the minimum value of $f(x)$?

II

III

IV

Section 2, Module 1: Math

Annotate

V

19

Mark for Review

Data set X
$12, 9, 5, 5, 1, 1, 1, 9, 1, 8$

Restaurant B replaces the knife when the durability of the knife reaches below 95%. Durability is defined as the proportion of the knife's original strength or effectiveness that remains after a certain period of use. The formula $D(w) = 100(0.99)^w$ models the durability of a knife in Restaurant B, w weeks after the purchase. Data set X represents the period of use of all 10 knives in Restaurant B in weeks. How many knives in Restaurant B are subject to replacement?

VI

VII

Section 2, Module 1: Math

Annotate

20

Mark for Review

What is a solution for an equation $x^3 - 27 = 0$?

(A) -3 (A)

(B) 0 (B)

(C) 3 (C)

(D) 9 (D)

Section 2, Module 1: Math

Annotate

21

Mark for Review

The median payment of 21 employees of Company A is 49,000 dollars per year. Which of the following changes in Company A cannot possibly change the median payment?

(A) The company hires 2 more interns each of who receives 32,000 dollars per year. (A)

(B) The company decides to cut down every employee's annual payment by 1,000 dollars. (B)

(C) The company pays an extra 2,000 dollars for an employee who receives the top payment. (C)

(D) The company doubles all employee payments. (D)

TESTBQUBE Question 21 of 22 >

Section 2, Module 1: Math

Annotate

22

Mark for Review

The density of a certain steel is 0.25 pounds per cubic inch. Which of the following answer choices most accurately shows the mass, in pounds, of a metal sphere with a diameter of 6 inches?

(A) 13 pounds (A)

(B) 28 pounds (B)

(C) 113 pounds (C)

(D) 339 pounds (D)

TESTBQUBE Question 22 of 22 > Back Next

Move on to the Next Section