35:00

Section 2, Module 2: Math

Annotate

1

Mark for Review

If a rectangle has a length of 8 units and a width of 5 units, what is its area?

(A) 13 square units

(B) 25 square units

(C) 30 square units

(D) 40 square units

TESTQUBE Question 1 of 22 >

Section 2, Module 2: Math

Annotate

2

Mark for Review

Jenna owns a thrift store that sells second-hand goods at a fixed price of $20 each. During a clearance sale, the store reduces the price of these items by 30%. What is the final price of the goods during the clearance sale?

(A) $6

(B) $14

(C) $18

(D) $30

TESTQUBE Question 2 of 22 >

Section 2, Module 2: Math

Annotate

3

Mark for Review

A car is traveling at a constant speed, and after 2 hours it has covered a distance of 350km. What is the car's speed in km/hour?

(A) 100 km/hour

(B) 120 km/hour

(C) 150 km/hour

(D) 175 km/hour

TESTQUBE Question 3 of 22 >

Section 2, Module 2: Math

Annotate

4

Mark for Review

A factory is responsible for producing shoes for its district. For every 200 shoes that the factory produces, 8 of them have a defect. If a shoe is randomly selected from the factory's production, what is the probability of selecting a shoe that has a defect?

(A) 8/100

(B) 8/1000

(C) 4/100

(D) 4/10

TESTQUBE Question 4 of 22 > Back Next

I

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VII

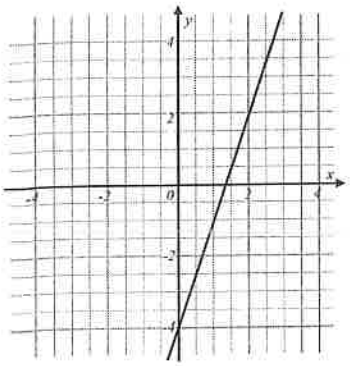
Section 2, Module 2: Math

Annotate

5

Mark for Review

The graph of $f(x) = 3x - 4$ is shown. What would be the y-intercept of the line for the function $f(x + 3)$?



(A) -1

(B) 5

(C) 11

(D) 13

TESTBQUBE Question 5 of 22 >

Section 2, Module 2: Math

Annotate

6

Mark for Review

In a right triangle, if the measure of one acute angle is $\angle 45°$ and the length of the side opposite to it is 8 units, what is the length of the hypotenuse?

(A) $6\sqrt{2}$ units

(B) 8 units

(C) $8\sqrt{2}$ units

(D) 12 units

TESTBQUBE Question 6 of 22 >

Section 2, Module 2: Math

Annotate

7

Mark for Review

Consider the system of equations:

$2x - y = 5$
$(3x + y)^2 = 25$

Which ordered pair (x, y) is a possible solution to the given system of equations?

(A) $(2, -1)$

(B) $(2, -5)$

(C) $(0, -1)$

(D) $(0, 2)$

TESTBQUBE Question 7 of 22 > Back Next

Section 2, Module 2: Math — Annotate

8 — Mark for Review

What value of x is the solution to the given equation?

$3x + 7 = 28$

(A) 15 (A)

(B) 12 (B)

(C) 9 (C)

(D) 7 (D)

Section 2, Module 2: Math — Annotate

9 — Mark for Review

$f(x) = x^2 + 4x + 3$.

The given equation defines the function f. For the ordered pair of (x, y) where $f(x)$ is at its minimum, what is the sum of $x + y$?

(A) -4 (A)

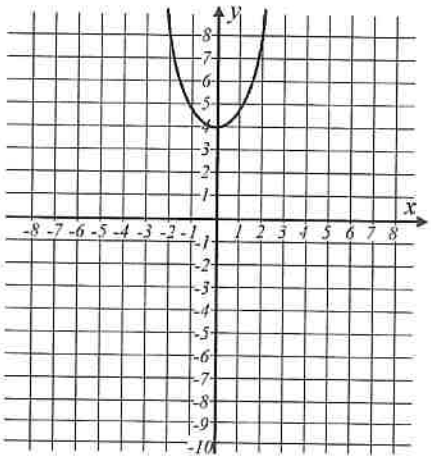
(B) -3 (B)

(C) 1 (C)

(D) 3 (D)

Section 2, Module 2: Math — Annotate

10 — Mark for Review



The graph of $y = x^2 + 4$ is shown. What is the value of x at $(x, 4)$?

(A) -2 (A)

(B) 0 (B)

(C) 2 (C)

(D) 4 (D)

I

Section 2, Module 2: Math

Annotate

11

Mark for Review

Which expression is equivalent to $(x^3 + y^2) - (3y^2 - x^3)$?

II

(A) $2y^2$ (A)

(B) $-2y^2$ (B)

(C) $2y^2 + 2x^3$ (C)

III

(D) $-2y^2 + 2x^3$ (D)

IV

TESTBQUBE Question 8 of 22 >

Section 2, Module 2: Math

Annotate

13

Mark for Review

A company produces and sells widgets at a rate of $10 per widget. However, the company needs to rent out a warehouse to make the product which has a fixed cost of $200. Let P represent the profit in dollars and w represent the number of widgets sold. Which equation correctly models the relationship between P and w?

(A) $P = 10w - 200$ (A)

(B) $P = 10w + 200$ (B)

(C) $P = 200w - 10$ (C)

(D) $P = 200w + 10$ (D)

TESTBQUBE Question 13 of 22 >

Section 2, Module 2: Math

Annotate

12

Mark for Review

V

Jonathan keeps track of his record for how many times he scores during each football practice. The record for the latest 10 games are,

$7, 2, 0, 3, 2, 1, 0, 2, 3, 2$

By analyzing the mean, mode, and median, which of the value is the highest?

VI

(A) Mean (A)

(B) Mode (B)

(C) Median (C)

VII

(D) All values are the same (D)

TESTBQUBE Question 12 of 22 >

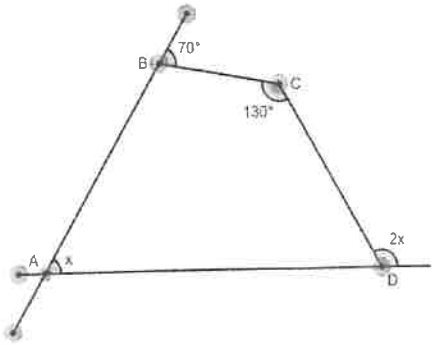
Section 2, Module 2: Math

Annotate

14

Mark for Review

In the figure $ABCD$, find the value of x. (Ignore the degree sign)



TESTBQUBE Question 14 of 22 > Back Next

Section 2, Module 2: Math

Annotate

15

Mark for Review

John is a plumber who is in charge of maintaining a water tank that supplies water to multiple villas. There is an annual checkup of the tank during which John drains all the water and then refills it. However, due to the high demand for water, the drainage pipe is left open while the tank is being filled. The pipe used for filling the tank can fill it in 4 hours, while the drainage pipe would take 6 hours to drain it completely. Assuming the tank starts off empty and both pipes are opened at the same time, how long, rounded to the nearest hour, will it take to fill the tank to its full capacity?

(A) 8 hours

(B) 10 hours

(C) 12 hours

(D) 24 hours

TESTQUBE Question 15 of 22 >

Section 2, Module 2: Math

Annotate

16

Mark for Review

The formula to calculate the compound interest on an investment is given by $A = P(1 + r/n)^{nt}$ where A represents the final amount, P is the principal amount, r is the annual interest rate, n is the number of times interest is compounded per year, and t is the number of years. Rearrange the formula to express the annual interest rate, r, in terms of A, P, n, t.

(A) $r = n[(A/P)^{1/nt} - 1]$

(B) $r = n[(P/A)^{nt} - 1]$

(C) $r = n[(P/A)^{1/nt} - 1]$

(D) $r = n[(A/P)^{nt} + 1]$

TESTQUBE Question 16 of 22 >

Section 2, Module 2: Math

Annotate

17

Mark for Review

A circle with center $(3, -2)$ and radius of 5 is represented by the equation $(x - 3)^2 + (y + 2)^2 = 25$. Which point lies on the circle?

(A) $(7, -2)$

(B) $(3, -8)$

(C) $(-2, 3)$

(D) $(8, -2)$

TESTQUBE Question 17 of 22 > Back Next

I II III IV V VI VII

I

II

III

IV

V

VI

VII

Section 2, Module 2: Math

Annotate

18

Mark for Review

A company conducted a survey to collect data on customer preferences regarding various products. The results are displayed in the table below. If a male customer is selected at random, what is the probability that his preferred product category is "Electronics"? Round your answer to the **nearest hundredth**.

Preferred Category	Male	Female	Total
Electronics	150	80	230
Clothing	120	90	210
Home Goods	70	60	130
Sports & Outdoor	50	70	120
Total	390	300	690

TESTQUBE Question 18 of 22 >

Section 2, Module 2: Math

Annotate

19

Mark for Review

The population of a town is modeled by the function $P(t) = 5000(1.03)^t$, where P represents the population and t represents the number of years since the start of the model. If the population is expected to reach $10,000$, which of the following answer choice is the closest to the year this occurs?

(A) 15 years

(B) 20 years

(C) 25 years

(D) 30 years

TESTQUBE Question 19 of 22 >

Section 2, Module 2: Math

Annotate

20

Mark for Review

A bookstore sells books at a 20% discount from the original price. During Thanksgiving, there is another 25% discount applied to the already discounted price. If a book's original price is $100, what is the difference in price between buying the book during the regular discount and after the Thanksgiving sale?

(A) $10

(B) $15

(C) $20

(D) $60

TESTQUBE Question 20 of 22 > Back Next

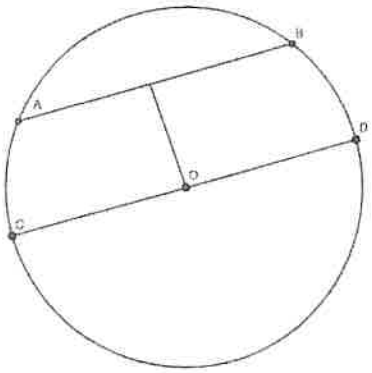
Section 2, Module 2: Math

Annotate

21

Mark for Review

The figure below depicts a circle with center O. If chord AB is parallel to diameter CD, where AB measures 6 cm and CD measures 10 cm, what is the shortest distance between point O and chord AB?



(A) $3cm$ (A)

(B) $4cm$ (B)

(C) $5cm$ (C)

(D) $6cm$ (D)

TESTBQUBE Question 21 of 22

Section 2, Module 2: Math

Annotate

22

Mark for Review

A rectangular prism has a volume of 990 cubic units. If the length, width, and height of the prism are consecutive positive integers, what is the sum of the length, width, and height?

(A) 29 units (A)

(B) 30 units (B)

(C) 31 units (C)

(D) 32 units (D)

TESTBQUBE Question 22 of 22 Back Next