35:00

Section 2, Module 1: Math

Annotate

1 Mark for Review

$\frac{36}{x} = 4$. What is the value of $x$?

(A) 4 (A)

(B) 6 (B)

(C) 8 (C)

(D) 9 (D)

TESTBQUBE Question 1 of 22 >

Section 2, Module 1: Math

Annotate

3 Mark for Review

The function $f$ is defined by $f(x) = 4x^2 + 2$. What is the value when $f(\frac{1}{2})$?

(A) 1 (A)

(B) 3 (B)

(C) 5 (C)

(D) 6 (D)

TESTBQUBE Question 3 of 22 >

Section 2, Module 1: Math

Annotate

2 Mark for Review

What is 120% of 80?

(A) 64 (A)

(B) 72 (B)

(C) 96 (C)

(D) 176 (D)

TESTBQUBE Question 2 of 22 >

Section 2, Module 1: Math

Annotate

4 Mark for Review

$y > 3x + 5$

If the value of $x$ is $-2$, which value of $y$ satisfies the inequality above?

(A) $-5$ (A)

(B) $-3$ (B)

(C) $-1$ (C)

(D) 2 (D)

TESTBQUBE Question 4 of 22 > Back Next

I

Section 2, Module 1: Math — Annotate

5 Mark for Review

Jason works at a car dealership where his monthly wage fluctuates depending on the number of cars he sells each month. His wage is calculated using the formula $y = 30x + 110$, where $30$ represents the commission he receives for selling one car. What does the value $110$ represent in this formula?

II

(A) The number of times he sold a car to his customers

III

(B) The minimum wage he receives every month

(C) The hours he spends per month working at the dealership

(D) The amount of money it takes to sell one car

IV

TESTQUBE Question 5 of 22 >

Section 2, Module 1: Math — Annotate

7 Mark for Review

$x^2 + 4xy + 4y^2 = 16$. What is one possible value for $x + 2y$?

(A) 4

(B) 8

(C) 64

(D) 256

TESTQUBE Question 7 of 22 >

V

Section 2, Module 1: Math — Annotate

6 Mark for Review

If a car travels $60$ miles in $1$ hour, what is its average speed in feet per second? ($1$ mile = $5280$ feet)

VI

(A) 12

(B) 44

(C) 88

(D) 5280

VII

TESTQUBE Question 6 of 22 >

Section 2, Module 1: Math — Annotate

8 Mark for Review

If the first integer is $3$ more than twice the second integer, and the sum of the two integers is $24$, what is the value of the second integer?

(A) 3

(B) 5

(C) 7

(D) 11

TESTQUBE Question 8 of 22 > Back Next

Section 2, Module 1: Math

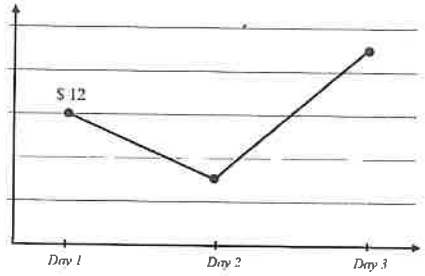
Annotate

9

Mark for Review

Astra, a company renowned for specializing in space travel technology, experienced a tumultuous week with various news events impacting its stock price. The stock began the week at $12. However, on the second day, the price dipped by 7 percent due to negative news. Fortunately, on the third day, positive forecasts led to a 12 percent increase in the stock price. Which answer is closest to the stock's final price at the end of the third day?

Stock Price: ASTRA




(A) $11.50 (A)

(B) $12.50 (B)

(C) $14.50 (C)

(D) $17.00 (D)

TESTBQUBE Question 9 of 22

Section 2, Module 1: Math

Annotate

10

Mark for Review

$$\frac{1-\frac{3}{x}}{x-\frac{9}{x}}$$

Which of the following equation is equivalent to the expression shown above?

(A) $\frac{1}{x-3}$ (A)

(B) $\frac{x-3}{x+3}$ (B)

(C) $\frac{1}{x+3}$ (C)

(D) $\frac{x+3}{x^2-9}$ (D)

TESTBQUBE Question 10 of 22

Section 2, Module 1: Math

Annotate

11

Mark for Review

What is the equation of a circle with center $(2, 3)$ and radius of 5?

(A) $(x+2)^2+(y+3)^2=5$ (A)

(B) $(x+2)^2+(y+3)^2=25$ (B)

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

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

TESTBQUBE Question 11 of 22 Back Next

I II III IV V VI VII

Section 2, Module 1: Math

Annotate

12 Mark for Review

There are 6 different types of marbles inside a bag. Dylan chooses one marble at random from the bag. What is the probability that Dylan grabs either a rough green marble or a blue marble?

| | Red | Blue | Green |
|---|---|---|---|
| Smooth | 4 | 2 | 3 |
| Rough | 2 | 7 | 6 |
| Total | 6 | 9 | 9 |

(A) 15/18 (A)

(B) 5/24 (B)

(C) 1/2 (C)

(D) 5/8 (D)

TESTBQUBE Question 12 of 22 >

Section 2, Module 1: Math

Annotate

13 Mark for Review

The expression $\sqrt[3]{\frac{a^{37}b^{40}c^{25}}{(abc)^{10}}}$ is equivalent to $a^x b^y c^z$, where $x,y,z$ are positive constants. What is the value of $x+y+z$?

TESTBQUBE Question 13 of 22 >

Section 2, Module 1: Math

Annotate

14 Mark for Review

$$\begin{cases} y = 2x + 8 \\ y = 3px + 4 \end{cases}$$

The set of equations is given above. Find the value of $p$ so that there are no solutions to the given system of equations.

(A) 1/2 (A)

(B) 4/5 (B)

(C) 2/3 (C)

(D) 1 (D)

TESTBQUBE Question 14 of 22 > Back Next

Section 2, Module 1: Math

Annotate

15

Mark for Review

A study is being conducted to assess the physical fitness of 100 high school seniors. One of the categories being quantitatively measured is the number of consecutive push-ups students can perform within a 2-minute time frame. The data is organized in a table with increments of 10. What is the median number of push-ups performed by the group, according to the table?

| Number of Push-ups | 10 | 20 | 30 | 40 | 50 |
|---|---|---|---|---|---|
| Number of People | 27 | 32 | 22 | 15 | 4 |

(A) 10 (A)

(B) 20 (B)

(C) 22 (C)

(D) 32 (D)

TESTBQUBE Question 15 of 22 >

Section 2, Module 1: Math

Annotate

16

Mark for Review

What value satisfies the inequality below?

$|x + 1| < 3$

(A) $-4$ (A)

(B) $0$ (B)

(C) $2$ (C)

(D) $3$ (D)

TESTBQUBE Question 16 of 22 > Back Next

I

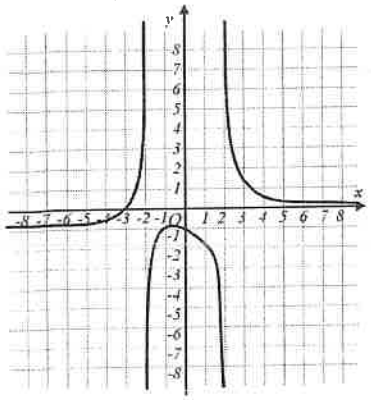
Section 2, Module 1: Math

Annotate

17

Mark for Review

The rational function $f$ is defined by an equation in the form of $f(x) = \frac{x+3}{x^2-4}$. How many values of $x$ is not defined for $f(x)$ ?



II

(A) 0 (A)

(B) 1 (B)

(C) 2 (C)

(D) 3 (D)

III

IV

V

VI

VII

TESTQUBE Question 17 of 22 >

Section 2, Module 1: Math

Annotate

18

Mark for Review

For a right triangle with side lengths 6 and 8, what is a possible side length of the third side?

(A) 3 (A)

(B) $3\sqrt{5}$ (B)

(C) $2\sqrt{7}$ (C)

(D) 12 (D)

TESTQUBE Question 18 of 22 >

Section 2, Module 1: Math

Annotate

19

Mark for Review

$y = 3x^2 - 5x - 12$

The given equations above is a polynomial function with two roots. If the values of the two roots are denoted as $a$ and $b$, what is the value of $ab$?

(A) $-4$ (A)

(B) $-3$ (B)

(C) 3 (C)

(D) 4 (D)

TESTQUBE Question 19 of 22 > Back Next

Section 2, Module 1: Math

Annotate

20

Mark for Review

In Physics, there is a widely used formula in understanding the movement of a fluid. The equation, adapted from the founder himself, is called the Bernoulli's Equation. This equation is used to gain insight in the motion of a fluid, specifically related to the pressure, speed and height. Assuming that there is no static pressure, the formula can be expressed as follows. Which equation correctly expresses $p$ in terms of $h$, $v$, $c$, and $g$?

$\frac{p}{2}v^2 + pgh = c$

(A) $p = \frac{2c}{v^2+2gh}$ (A)

(B) $p = \frac{c}{gvh}$ (B)

(C) $p = \frac{2c}{vgh+2}$ (C)

(D) $p = \frac{gc}{v^2+2vh}$ (D)

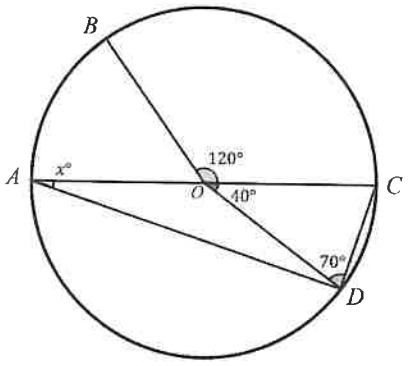


Section 2, Module 1: Math

Annotate

21

Mark for Review




Note: Figure Not Drawn to Scale

In the shown figure, the segment $AC$ is the diameter of the circle with the center $O$. Also, $\angle BOC = 120°$, $\angle COD = 40°$, and $\angle CDO = 70°$. Find the angle of $x$.°

(A) $70^\circ$ (A)

(B) $45^\circ$ (B)

(C) $30^\circ$ (C)

(D) $20^\circ$ (D)

I

Section 2, Module 1: Math

Annotate

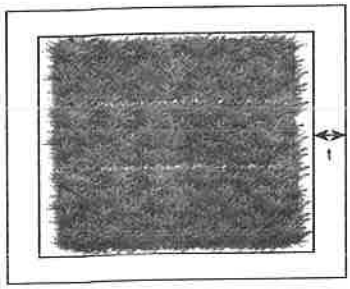
22

Mark for Review

II

John is trying to decide what kind of fence he should use for his garden. The dimension of the garden is $10m \times 20m$ and John decides $10m^2$ to be the overall area of the fence. If the fence goes around the garden and is uniform in thickness, and the thickness is denoted as $t$ in meters, what is the closest value of $t$?

III




IV

(A) $1.54m$ (A)

(B) $0.85m$ (B)

(C) $0.53m$ (C)

(D) $0.17m$ (D)

V

VI

VII

TEST QUBE Question 22 of 22 >



Move on to the Next Section