1 Mark for Review 🔖

The function f is defined by the equation $f(x) = 6x - 3$. What is the value of x when $f(x) = -9$?

(A) 3

(B) 1

(C) -1

(D) -3

3 Mark for Review 🔖

What is the value of y that satisfies the two systems of equations given below?

$$-2x + 3y = 11$$
$$y = 2x + 1$$

2 Mark for Review 🔖

The total cost, in dollars, it takes for James to rent a room consists of a monthly fixed $1250 rent fee and $0.5 per hour fee for electricity. This April, he used electricity for 180 hours. What is the total cost James must pay for this month?

(A) $1250

(B) $1340

(C) $1430

(D) $1520

4 Mark for Review 🔖

m is a constant and x and y are variables given in the system of equations below. For which value of m does the system of equations have infinitely many solutions?

$$4x - y = -6$$
$$-10x + my = 15$$

5   Mark for Review 🔖

From the given graph below, find the y-intercept.

(A) 12

(B) 10

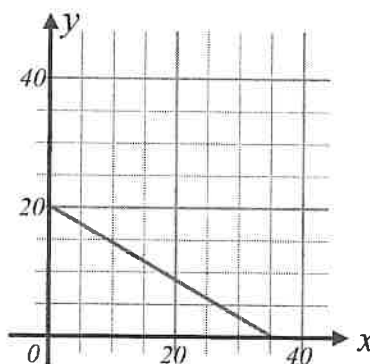(C) 9

(D) 6
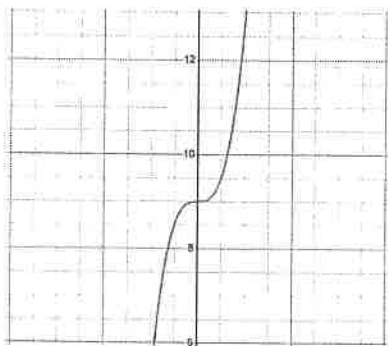
6   Mark for Review 🔖

The graph below shows the relationship between the time a candle burns, x (in hours), and the height of a candle, y (in centimeters). Which equation represents this relationship?

(A) $y = -4/7x + 20$

(B) $y = -7/4x + 20$

(C) $y = 4/7x + 20$

(D) $y = 7/4x + 20$

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7   Mark for Review 🔖

Which of the following equations is perpendicular to $2x - y = 4$?

- Ⓐ $2x - y = 4$
- Ⓑ $-2x - y = 4$
- Ⓒ $\frac{1}{2}x - y = 4$
- Ⓓ $-\frac{1}{2}x - y = 4$

9   Mark for Review 🔖

If the expression below is rewritten in the form $ax^3 + bx^2 + cx + d$, where $a, b, c,$ and d are constants, what is the value of c?

$$3x(2x^2 - x + 5) - x(6x - 2) + 3$$

8   Mark for Review 🔖

What is the maximum number of boxes that Sarah can bring with her in an elevator with a maximum load capacity of 210 pounds, if she weighs 110 pounds and each box weighs 15 pounds?

- Ⓐ 4
- Ⓑ 5
- Ⓒ 6
- Ⓓ 7

10   Mark for Review 🔖

Find the sum of two solutions for the given equation below.

$$2x^2 + 9x - 5 = 0$$

- Ⓐ $9/2$
- Ⓑ $-9/2$
- Ⓒ $2/9$
- Ⓓ $-2/9$

11   Mark for Review 🔖

Simplify the expression below where $x \neq 2$.

$$\frac{2x^2 - 2x - 4}{x - 2}$$

(A) $2x + 2$ (A)

(B) $2x - 2$ (B)

(C) $2x - 3$ (C)

(D) $x - 2$ (D)

TEST🟦QUBE   [Question 11 of 22 >]

13   Mark for Review 🔖

The equation $f(x) = 7.1 + 48t$ gives the estimated height of Justin (in centimeters) t years after he was born. Which of the following answer choices is the best interpretation of the number 7.1 for this equation? ($0 \leq t \leq 5$)

(A) The number of years since Justin was born   (A)

(B) The height of Justin when he was born   (B)

(C) The increase in the height of Justin each year   (C)

(D) The weight of Justin t years after he was born   (D)

TEST🟦QUBE   [Question 13 of 22 >]

II

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IV

12   Mark for Review 🔖

The model estimates that the number of corals in area A will decrease by 15% annually due to rising temperatures, and at the end of 2023, there are 300 corals in the area. Which of the following equations accurately represents the expected number of corals living in area A at the end of 2028, according to the model's estimates?

(A) $300(0.15)^5$ (A)

(B) $300(0.85)^5$ (B)

(C) $0.15(300)^5$ (C)

(D) $0.85(300)^5$ (D)

TEST🟦QUBE   [Question 12 of 22 >]

14   Mark for Review 🔖

Village A has a population of $3,500$ in 2023. However, due to gentrification, the village is experiencing an outflow of 10% of its population from the previous year. How many people will there be in village A in 2025?

(A) $3,035$ (A)

(B) $2,935$ (B)

(C) $2,835$ (C)

(D) $2,735$ (D)

TEST🟦QUBE   [Question 14 of 22 >]   [Back] [Next]

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Section 2, Module 2: Math   Annotate ⋮

15   Mark for Review 🔖

The table below summarizes the 30 data values in a set of data. Which of the following sentences are true?

Value	Frequency
0	1
1	3
2	2
3	5
4	4
5	7
6	4
7	1
8	3

$i.$)   The mean is larger than the mode of this data set.
$ii.$)   The mode of this data set is 8.
$iii.$)   The range of this data set is 8.

(A) i only   (A)

(B) iii only   (B)

(C) i and iii (C)

(D) ii and iii (D)

Section 2, Module 2: Math   Annotate ⋮

16   Mark for Review 🔖

The table below summarizes the number of students who took different college entrance exams in class A and B. There are 29 students who took SAT in class A and there are 58 students who took SAT in class B. The ratio of the number of students who took IB in class A to B is 3 to 2, and the total number of students taking CSAT is half of the total number of students who took IB. There are a total of 40 students who took IB. If one student is chosen at random from a total pool of students, what is the probability that he or she took IB at class B? (Round to the nearest hundredth)

	Test		
Class	SAT	IB	CSAT
A	29	?	?
B	58	?	?
Total	87	40	?

17   Mark for Review 🔖

In triangle ABC, the following information is given: Angle B measures 90 degrees, and Angle C measures 45 degrees. If the length of side BC is 10, find the length of the hypotenuse for triangle ABC.

(A) $10\sqrt{3}$

(B) $10\sqrt{2}$

(C) 20

(D) 40

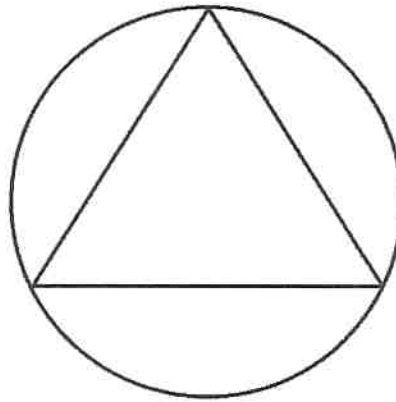**18**   Mark for Review 🔖

There is an equilateral triangle inscribed in a circle as shown below. If the radius of this circle is 4, what is the area of this equilateral triangle?

(A) $4\sqrt{3}$

(B) $8\sqrt{3}$

(C) $12\sqrt{3}$

(D) $16\sqrt{3}$

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Section 2, Module 2: Math   Annotate ⋮

19   Mark for Review 🔖

Tim is driving a car between his home and work. The distance between the two places is d and it takes h hours to travel from home to work. Which expression represents the average speed of this trip?

- (A) $d + h$ Ⓐ
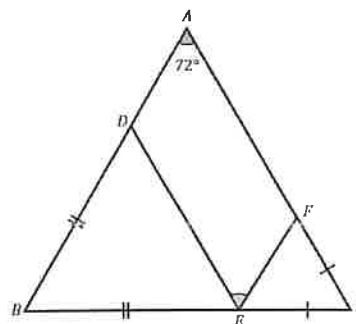- (B) $d - h$ Ⓑ
- (C) $d \times h$ Ⓒ
- (D) d/h Ⓓ

Section 2, Module 2: Math   Annotate ⋮

20   Mark for Review 🔖

In the triangle below, triangle ABC is an isosceles triangle in which $AB = AC$. If $BD = BE$, $CE = CF$, and angle $\angle A = 72°$, what is the measure of angle $\angle DEF$?

Note: Figure Not Drawn to Scale

- (A) $36°$ Ⓐ
- (B) $54°$ Ⓑ
- (C) $63°$ Ⓒ
- (D) $72°$ Ⓓ

I

21   Mark for Review 🔖

The function f is defined by
$f(x) = -2x^2 + 9x - 4$ and function g is defined
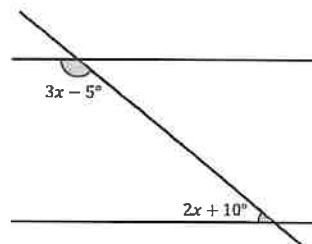by $g(x) = -f(x)$. Find one x-intercept of the
function $g(x)$.

[   ]

22   Mark for Review 🔖

In the figure below, the two horizontal lines run
parallel to each other. What is the value of x?

II

$3x - 5°$

$2x + 10°$

III

Note: Figure Not Drawn to Scale

Ⓐ 35   Ⓐ

Ⓑ 45   Ⓑ

IV

Ⓒ 55   Ⓒ

Ⓓ 65   Ⓓ

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