Section 2, Module 2: Math   ✎ Annotate ⋮

1   Mark for Review 🔖

What value of x is the solution for the following equation below?

$$6x - 3x - 15 = 75$$

[   ]

Section 2, Module 2: Math   ✎ Annotate ⋮

3   Mark for Review 🔖

Alex takes a tram and bicycle from home to his workplace. The tram travels at a constant speed of 15 miles per hour and the bicycle at 10 miles per hour. The distance between his home and workplace is 10 miles and it takes 45 minutes for him to travel one-way. How long did Alex travel on the tram?

(A) 12 minutes

(B) 15 minutes

(C) 24 minutes

(D) 30 minutes

Section 2, Module 2: Math   ✎ Annotate ⋮

2   Mark for Review 🔖

The solution to the given system of equations is (m, n). What is the value of $m - n$?

$$3m + 4n = 7$$
$$4m + 3n = 10$$

(A) -3

(B) -1

(C) 1

(D) 3

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4   Mark for Review 🔖

Which of the systems of equations have infinitely many solutions?

(A) $2x + 4y = 3$ and $6x + 12y = 9$

(B) $-x - y = 5$ and $x - y = 5$

(C) $4x - y = -2$ and $4x - y = 2$

(D) $3x + 3y = 1$ and $3x - 3y = -1$

I

5 Mark for Review 🔖

The function g is defined by $g(x) = 3x^2 - 6x + 4$.
For what value of x does $g(x) = 28$?

Ⓐ -4 (A)

Ⓑ -2 (B)

Ⓒ 3 (C)

Ⓓ 5 (D)

II

III

IV

7 Mark for Review 🔖

The given equation relates the numbers a, b, and c.
Which of the following correctly expresses b in
terms of a and c?
$c = 3a^2 - 2b$

Ⓐ $b = \frac{3a^2 + c}{2}$ (A)

Ⓑ $b = \frac{3}{2a^2 - c}$ (B)

Ⓒ $b = \frac{3a^2 - c}{2}$ (C)

Ⓓ $b = 3a^2 - c$ (D)

V

VI

6 Mark for Review 🔖

What value of b would result in no real solution for
the given equation below?

$3x^2 - bx + 2 = 0$

Ⓐ 4 (A)

Ⓑ 5 (B)

Ⓒ 6 (C)

Ⓓ 7 (D)

VII

8 Mark for Review 🔖

Jake is shopping at a store and plans to purchase
both cookies and chips. The price of each cookie is
$2.5, while each chip costs $1.5. Jake intends to
buy 6 chips and wishes to spend a minimum of $26
but no more than $27 in total. How many cookies
should Jake include in the purchase?

9   Mark for Review 🔖

Which of the following expressions is equivalent to $\dfrac{(a^4b^3c^2)(a^{-1}b^2c^5)}{(ab^2c^{-1})}$, where a, b, and c are positive?

(A) $a^{-4}b^{12}c^{-10}$ Ⓐ

(B) $a^{-4}b^{3}c^{-10}$ Ⓑ
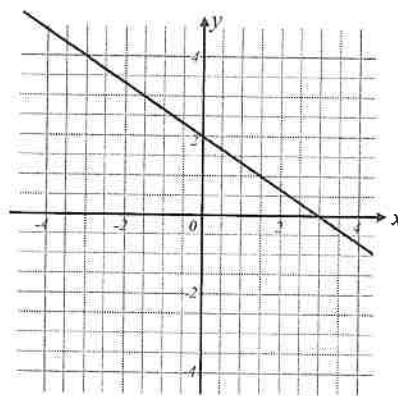
(C) $a^{4}b^{7}c^{6}$ Ⓒ

(D) $a^{2}b^{3}c^{8}$ Ⓓ

10   Mark for Review 🔖

What is the slope for the given linear function below?

(A) $-3/2$ Ⓐ

(B) $-2/3$ Ⓑ

(C) $2/3$ Ⓒ

(D) $3/2$ Ⓓ

I

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VI

VII

I

11   Mark for Review 🔖

The function f is defined by $f(x) = -2x + 6$ and function g is defined by $g(x) = -f(x)$. What is the value of $g(-1)$?
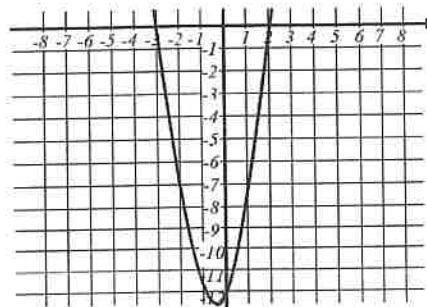
II

[ ]

12   Mark for Review 🔖

Which of the following equations defines the function f as shown in the graph below?

III

A $f(x) = -2x^2 + 2x + 12$ (A)

B $f(x) = -2x^2 - 2x + 12$ (B)

IV
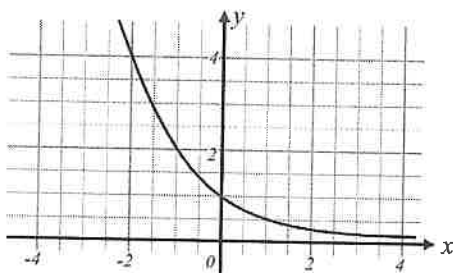
C $f(x) = 2x^2 - 2x - 12$ (C)

D $f(x) = 2x^2 + 2x - 12$ (D)

V

VI

VII

2

2

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VI

VII

13   Mark for Review 🔖

The function $f(x)$ is illustrated below. What is the value of $f(-2)$?

(A) -4

(B) -2

(C) 2

(D) 4

14   Mark for Review 🔖

To produce 10 grams of dough, a mixture is prepared by combining 8 grams of flour, 1.5 grams of water, and 0.5 grams of sugar. If there is a total of 65 grams of dough, how many grams of water is included in the mixture? (Ignore the gram sign.)

15   Mark for Review 🔖

Jeremy ordered a steak and wine at a restaurant. The steak costs 28 dollars and wine 12 dollars. Jeremy must pay 10 percent tax to the total amount of food he paid and an additional tip of 6 dollars above that. How much money does Jeremy have to pay at the restaurant? (ignore the dollar sign)

16   Mark for Review 🔖

Class A comprises 50 students, where 22 students can speak Spanish, 16 students can speak French, and 4 students can speak both languages. What is the probability that a randomly selected student from Class A speak neither Spanish nor French?

(A) 16%

(B) 24%

(C) 32%

(D) 36%

17   Mark for Review 🔖

Anna weighs 125 pounds. Determine Anna's weight in tons. (1 pound = 0.45 kilograms and 1 kilogram = 0.001 ton)

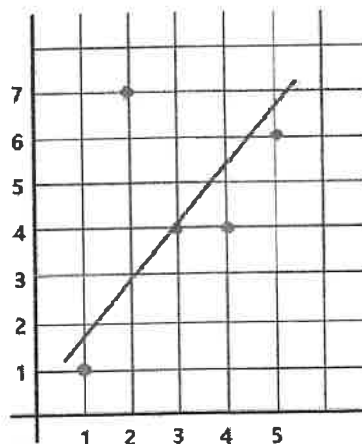(A) 0.0056 tons

(B) 0.056 tons

(C) 0.56 tons

(D) 5.6 tons

18   Mark for Review 🔖

Which of the following equations best represents the line of best fit for the scatterplot below?

(A) $y = 1.2x + 0.5$

(B) $y = -1.2x + 0.5$

(C) $y = 1.2x - 0.5$

(D) $y = -1.2x - 0.5$

Section 2, Module 2: Math   Annotate ⋮

19   Mark for Review 🔖

What is the volume of a pyramid with a length of 6, a width of 4 and a height of 5?

[_____]

Section 2, Module 2: Math   Annotate ⋮

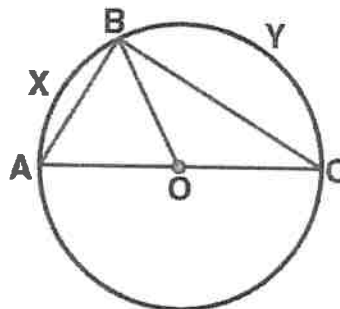### 20   Mark for Review 🔖

In the diagram below, triangle ABC is circumscribed by circle with a center O. If $\angle BAC$ is $40°$, what is $\angle BCA$?

- (A) 30°
- (B) 40°
- (C) 50°
- (D) 60°

Section 2, Module 2: Math

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21 Mark for Review 🔖

A ladder, initially 15 feet long, is leaning exactly at the top of the building with the base of the ladder positioned 9 feet from the building. When the ladder is pulled 3 feet farther from the building, the top of the ladder drops to a new height. Let's denote the angle between the newly adjusted ladder and the ground as A. Find the value of $\sin(A)$.

[   ]

Section 2, Module 2: Math

Annotate ⋮

22 Mark for Review 🔖

Consider an equilateral triangle A with a side length of $4cm$. If triangle B is similar to triangle A and has side lengths that are 50 percent longer than that of triangle A, what is the area of triangle B?

(A) $4\sqrt{3}$

(B) $6\sqrt{3}$

(C) $8\sqrt{3}$

(D) $9\sqrt{3}$