Algebra 1 Quick quiz02072023

Question 1.

Given the relation $R = \{(-4,2), (3,6), (x,8), (-1,4)\}$

Which value of x would make this relation a function?
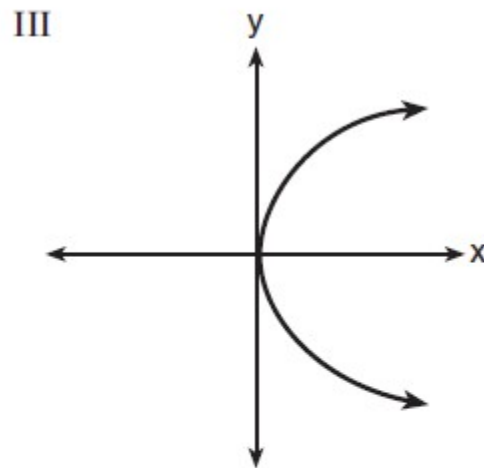(1) −4   (3) 3
(2) −1   (4) 0

Question 2

Which representations are functions?

I

x	y
2	6
3	−12
4	7
5	5
2	−6

III

II $\{(1,1), (2,1), (3,2), (4,3), (5,5), (6,8), (7,13)\}$ IV $y = 2x + 1$

(1) I and II   (3) III, only
(2) II and IV   (4) IV, only

Question 3. You may use your graphing software to check your answer.

If $f(x) = \dfrac{\sqrt{2x+3}}{6x-5}$, then $f\left(\dfrac{1}{2}\right) =$

(1) 1

(3) -1

(2) -2

(4) $-\dfrac{13}{3}$

Question 4.

The zeros of the function $f(x) = 3x^2 - 3x - 6$ are

(1) -1 and -2

(3) 1 and 2

(2) 1 and -2

(4) -1 and 2

Question 5.

Which recursively defined function has a first term equal to 10 and a common difference of 4?

(1) $f(1) = 10$
   $f(x) = f(x-1) + 4$

(3) $f(1) = 10$
   $f(x) = 4f(x-1)$

(2) $f(1) = 4$
   $f(x) = f(x-1) + 10$

(4) $f(1) = 4$
   $f(x) = 10f(x-1)$

Question 6.

A typical cell phone plan has a fixed base fee that includes a certain amount of data and an overage charge for data use beyond the plan. A cell phone plan charges a base fee of $62 and an overage charge of $30 per gigabyte of data that exceed 2 gigabytes. If C represents the cost and g represents the total number of gigabytes of data, which equation could represent this plan when more than 2 gigabytes are used?

(1) $C = 30 + 62(2 - g)$ (3) $C = 62 + 30(2 - g)$

(2) $C = 30 + 62(g - 2)$ (4) $C = 62 + 30(g - 2)$

Question 7.

If the point $(K, -5)$ lies on the line whose equation is $3x + y = 7$, then the value of K is
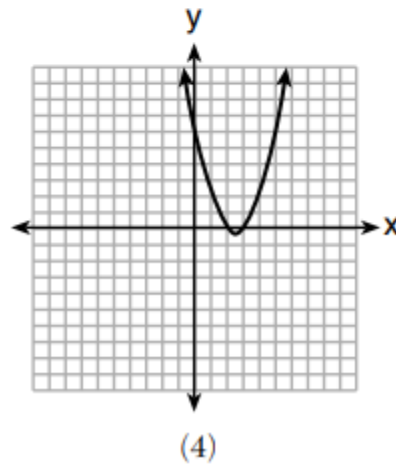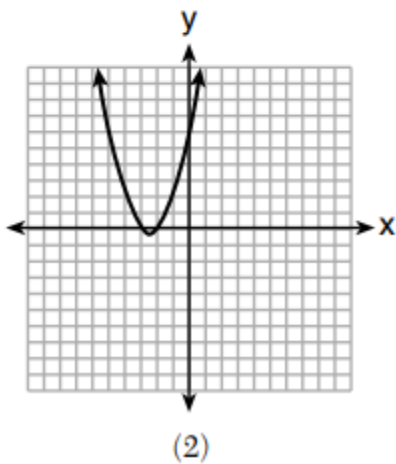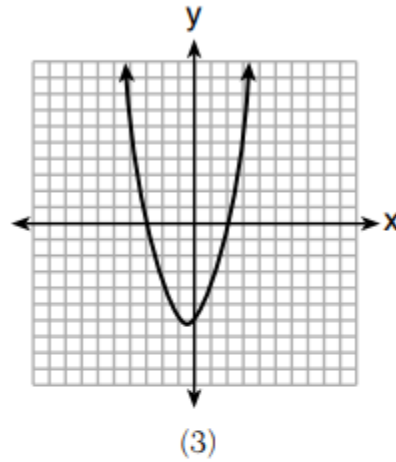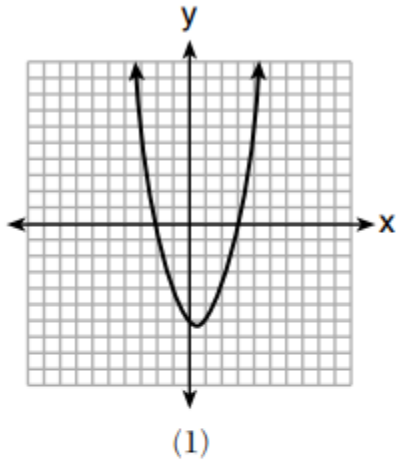
(1) -8 (3) 22

(2) -4 (4) 4

Question 8.

The expression $\frac{1}{3}x(6x^2 - 3x + 9)$ is equivalent to

(1) $2x^2 - x + 3$ (3) $2x^3 - x^2 + 3x$

(2) $2x^2 + 3x + 3$ (4) $2x^3 + 3x^2 + 3x$

Question 9.

The graphs below represent four polynomial functions. Which of the functions has zeros of 2 and −3?

(1)

(3)

(2)

(4)

Question 10.

Take note that this question has 2 answers.

Jackson is starting an exercise program. The first day he will spend 30 minutes on a treadmill. He will increase his time on the treadmill by 2 minutes each day. Write an equation for $T(d)$, the time, in minutes, on the treadmill on day d.

Find $T(6)$, the minutes he will spend on the treadmill on day 6.

Bonus Question

Question 11

Solve for x algebraically: $7x - 3(4x - 8) \leq 6x + 12 - 9x$