Algebra 1 Quick-Quiz-11292023

Question 1.

Bryan's hockey team is purchasing jerseys. The company charges $250 for a onetime set-up fee and $23 for each printed jersey. Which expression represents the total cost of x number of jerseys for the team?

(1) $23x$

(2) $23 + 250x$

(3) $23x + 250$

(4) $23(x + 250)$

Question 2

Which table represents a function?

x	y
2	–3
3	0
4	–3
2	1

(1)

x	y
–3	0
–2	1
–3	2
2	3

(3)

x	y
1	2
1	3
1	4
1	5

(2)

x	y
–2	–4
0	2
2	4
4	6

(4)

Question 3.

Which expression is equivalent to $2(x^2 - 1) + 3x(x - 4)$?

(1) $5x^2 - 5$

(2) $5x^2 - 6$

(3) $5x^2 - 12x - 1$

(4) $5x^2 - 12x - 2$

Question 4

The value of x that satisfies the equation $\frac{4}{3} = \frac{x+10}{15}$ is

(1) -6

(2) 5

(3) 10

(4) 30

Question 5.

Josh graphed the function $f(x) = -3(x - 1)^2 + 2$. He then graphed the function $g(x) = -3(x - 1)^2 - 5$ on the same coordinate plane. The vertex of $g(x)$ is

(1) 7 units below the vertex of $f(x)$

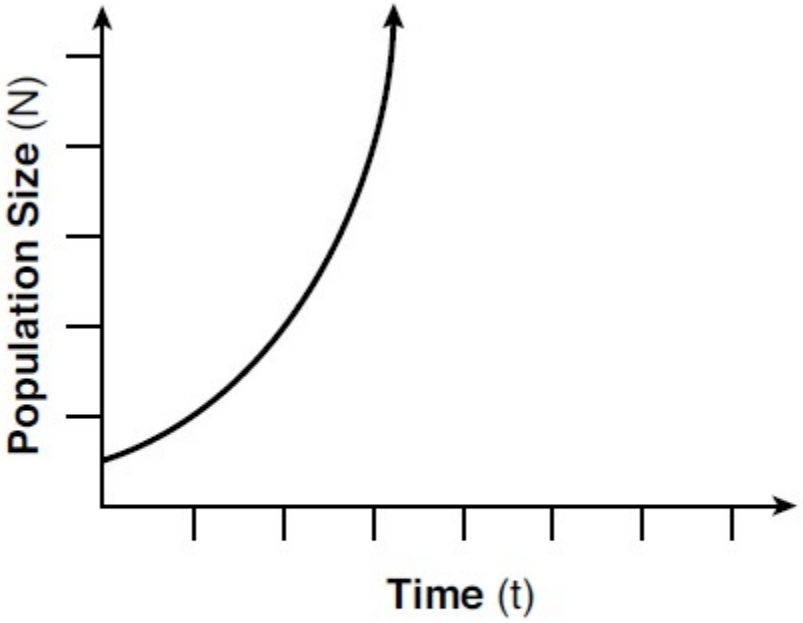
(2) 7 units above the vertex of $f(x)$

(3) 7 units to the right of the vertex of $f(x)$

(4) 7 units to the left of the vertex of $f(x)$

Question 6.

Which type of function is shown in the graph below?



(1) linear

(2) exponential

(3) square root

(4) absolute value

Question 7.

The expression $16x^2 - 81$ is equivalent to

(1) $(8x - 9)(8x + 9)$

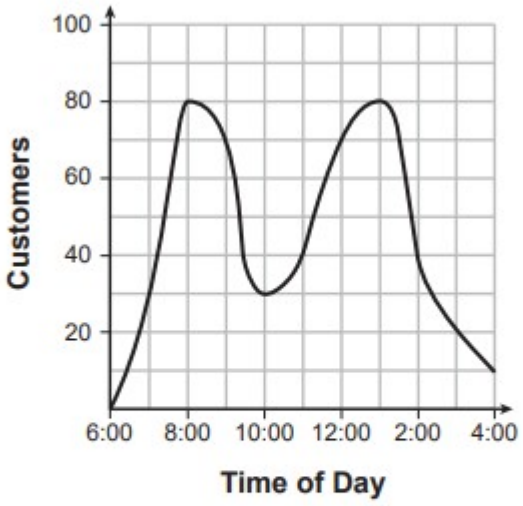
(2) $(8x - 9)(8x - 9)$

(3) $(4x - 9)(4x + 9)$

(4) $(4x - 9)(4x - 9)$

Question 8.

A café owner tracks the number of customers during business hours. The graph below models the data.



Based on the graph, the café owner saw a continual

(1) increase in customers from 6:00 to 11:00

(2) increase in customers from 12:00 to 3:00

(3) decrease in customers from 1:00 to 4:00

(4) decrease in customers from 11:00 to 2:00

Question 9.

A ball is thrown into the air from the top of a building. The height, $h(t)$, of the ball above the ground t seconds after it is thrown can be modeled by $h(t) = -16t^2 + 64t + 80$. How many seconds after being thrown will the ball hit the ground?

(1) 5

(2) 2

(3) 80

(4) 144

Question 10.

Which equation is equivalent to $y = x^2 + 24x - 18$?

(1) $y = (x + 12)^2 - 162$

(2) $y = (x + 12)^2 + 126$

(3) $y = (x - 12)^2 - 162$

(4) $y = (x - 12)^2 + 126$

Bonus

Question 11a.

Which expression is equivalent to $36x^2 - 100$?

(1) $4(3x - 5)(3x - 5)$

(2) $4(3x + 5)(3x - 5)$

(3) $2(9x - 25)(9x - 25)$

(4) $2(9x + 25)(9x - 25)$

Question 11b.

Solve $x^2 - 9x = 36$ algebraically for all values of x.