Algebra 1 Quick-Quiz-12182023

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.

A survey was given to 12th-grade students of West High School to determine the location for the senior class trip. The results are shown in the table below.

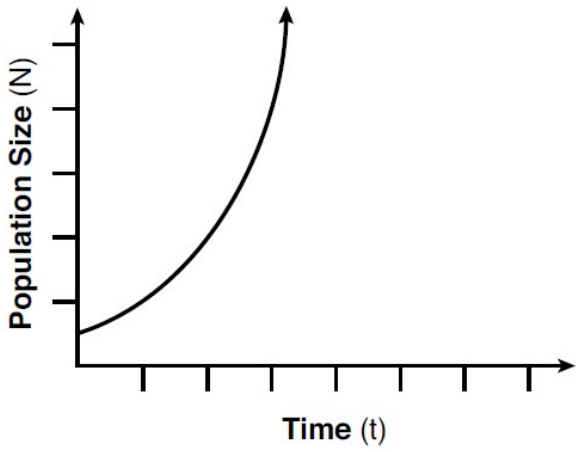
	Niagara Falls	Darien Lake	New York City
Boys	56	74	103
Girls	71	92	88

To the *nearest percent*, what percent of the boys chose Niagara Falls?

(1) 12
(2) 24
(3) 44
(4) 56

Question 7.

Which type of function is shown in the graph below?



(1) linear
(2) exponential
(3) square root
(4) absolute value

Question 8.

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 9.

The owner of a landscaping business wants to know how much time, on average, his workers spend mowing one lawn. Which is the most appropriate rate with which to calculate an answer to his question?

(1) lawns per employee

(2) lawns per day

(3) employee per lawns

(4) hours per lawn

Question 10.

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

Bonus Question

Question 11

Choose the expressions that are equivalent to $x^2 + 4x + 3$.

Select **all** that apply.

- ☐ A. $(x+2)^2 - 1$
- ☐ B. $(x+2)^2 + 1$
- ☐ C. $(x-1)(x-3)$
- ☐ D. $(x+1)\ (x+3)$
- ☐ E. $(x-1)(x+4)$