Algebra 1 Quick Quiz 02022022

Question 1.

Which expression is equivalent to x^6x^2?

A x^4x^3

B x^5x^3

C x^7x^3

D x^9x^3

Question 2

A store sells self-serve frozen yogurt sundaes. The function $C(w)$ represents the cost, in dollars, of a sundae weighing w ounces. An appropriate domain for the function would be

(1) integers

(2) rational numbers

(3) nonnegative integers

(4) nonnegative rational numbers

Question 3.

The cost to rent a construction crane is $750 per day plus $250 per hour of use. What is the maximum number of hours the crane can be used each day if the rental cost is not to exceed $2500 per day?

A 2.5

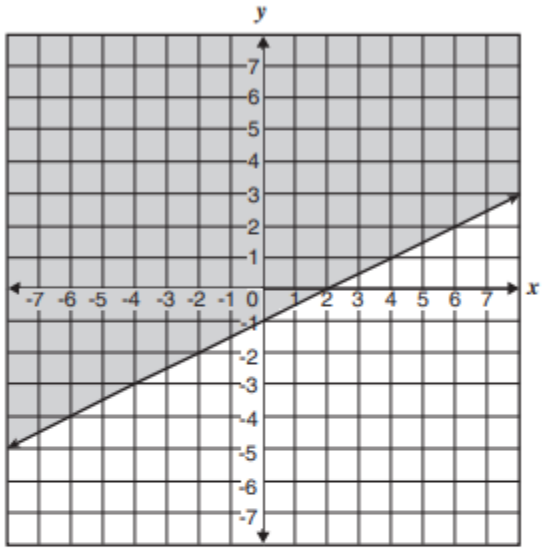
B 3.7

C 7.0

D 13.0

Question 4. Try to do this without actually graphing the inequality on your calculator.

Which inequality is shown on the graph below?



A $y < \frac{1}{2}x - 1$

B $y \leq \frac{1}{2}x - 1$

C $y > \frac{1}{2}x - 1$

D $y \geq \frac{1}{2}x - 1$

Question 5.

What is the *y*-intercept of the graph of $4x + 2y = 12$?

A -4

B -2

C 6

D 12

Question 6.

Michael borrows money from his uncle, who is charging him simple interest using the formula $I = Prt$. To figure out what the interest rate, r, is, Michael rearranges the formula to find r. His new formula is r equals

(1) $\frac{I-P}{t}$

(2) $\frac{P-I}{t}$

(3) $\frac{I}{Pt}$

(4) $\frac{Pt}{I}$

Question 7.

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 8.

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 9.

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 10.

A construction company uses the function $f(p)$, where p is the number of people working on a project, to model the amount of money it spends to complete a project. A reasonable domain for this function would be

(1) positive integers

(2) positive real numbers

(3) both positive and negative integers

(4) both positive and negative real numbers

Bonus Question

Question 11a

On the day Alexander was born, his father invested \$5000 in an account with a 1.2% annual growth rate. Write a function, $A(t)$, that represents the value of this investment t years after Alexander's birth.

Question 11b

Determine, to the *nearest dollar*, how much more the investment will be worth when Alexander turns 32 than when he turns 17.