Algebra 2 Quick Quiz 11072022

Question 1.

The area of a square is $2\sqrt{2}+3$. What is the length of a side of the square?

A $\sqrt{2}-1$
B $\sqrt{2}+1$
C $2\sqrt{2}-1$
D $2\sqrt{2}+1$

Question 2

Which expression represents the quotient? $\dfrac{8x^6z^4+4x^4z^2}{4x^2z}$

A $2x^4z^3+x^2z$
B $2x^3z^4+x^2z^2$
C $4x^4z^3+3x^2z$
D $4x^3z^4+3x^2z^2$

Question 3.

Which expression represents the quotient? $\dfrac{4x^2y}{8xy^2}\div\dfrac{12xy^2}{8x^6y^3}$

A $\dfrac{x^5}{3}$
B $\dfrac{3}{x^5}$
C $\dfrac{x^6}{3}$
D $\dfrac{3}{x^6}$

Question 4.

Which expression represents the quotient? $(y^2-4y-32)\div(y+4)$

A $y-8$
B $y+8$
C $y-4$
D $y+4$

Question 5.

A rectangular prism has a volume of $8x^3+14x^2+x-2$ and a height of $2x+1$. Which expression represents the area of the base of the prism?

A $4x^2+5x-2$
B $4x^2+5x+2$
C $4x^2+9x+4$
D $4x^2+9x+5$

Question 6.

Which expression is equivalent to $(4i)^3$?

A $-12i$
B $12i$
C $-64i$
D $64i$

Question 7.

A circuit has a current of $(8 + 7i)$ amps, and another circuit has a current of $(5 - 3i)$ amps. What is the difference between the currents of the two circuits?

A $(3 - 4i)$ amps
B $(3 + 4i)$ amps
C $(3 - 10i)$ amps
D $(3 + 10i)$ amps

Question 8.

Which expression is equivalent to $\sqrt{-6}\left(\sqrt{-4}-\sqrt{3}\right)$?

A $2\sqrt{6}+3\sqrt{2}$
B $-24-6i\sqrt{3}$
C $2\sqrt{6}-3i\sqrt{2}$
D $-2\sqrt{6}-3i\sqrt{2}$

Question 9.

What is the product of $(2+3i)$ and $(5-4i)$?

A $-2-23i$
B $-2+7i$
C $22-23i$
D $22+7i$

Question 10. Please do not use desmos or your graphing calculator for this question.

What is the parent graph of the following function and what transformations have taken place on it: $y=(x-3)^2$?

A The parent graph is $y=x^2$, which is shifted 3 units up.
B The parent graph is $y=x^2$, which is shifted 3 units down.
C The parent graph is $y=x^2$, which is shifted 3 units to the left.
D The parent graph is $y=x^2$, which is shifted 3 units to the right.

Bonus Question

Question 11

The functions f and g are defined by $f(x) = x^2$ and $g(x) = 2x$, respectively. Which equation is equivalent to $h(x) = \frac{f(2x)g(-2x)}{2}$?

A. $h(x) = -2x^3$

B. $h(x) = -8x^3$

C. $h(x) = x^2 - 2x$

D. $h(x) = 2x^2 + 2x$