Algebra 2 Quick Quiz 10182022

Question 1.

Given i is the imaginary unit, $(2-yi)^2$ in simplest form is

(1)
$$y^2 - 4yi + 4$$

$$(3) -y^2 + 4$$

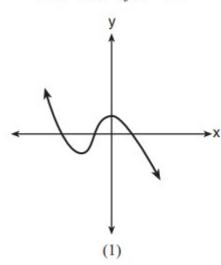
(1)
$$y^2 - 4yi + 4$$
 (2) $-y^2 - 4yi + 4$ (3) $-y^2 + 4$ (4) $y^2 + 4$

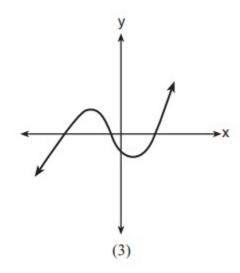
$$(4) y^2 + 4$$

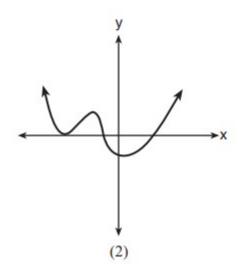
Question 2

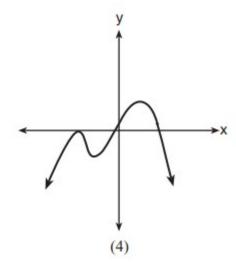
Which graph has the following characteristics?

- three real zeros
- as $x \to -\infty$, $f(x) \to -\infty$
- as $x \to \infty$, $f(x) \to \infty$









Question 3.

The solution set for the equation $\sqrt{56-x} = x$ is

(1) $\{-8,7\}$

(3) $\{7\}$

(2) $\{-7.8\}$

(4) {}

Question 4.

The zeros for $f(x) = x^4 - 4x^3 - 9x^2 + 36x$ are

- (1) {0,±3,4}
- $(3) \{0,\pm 3,-4\}$

(2) {0,3,4}

(4) {0,3,-4}

Question 5.

If $g(c) = 1 - c^2$ and m(c) = c + 1, then which statement is *not* true?

- (1) $g(c) \cdot m(c) = 1 + c c^2 c^3$
- (2) $g(c) + m(c) = 2 + c c^2$
- (3) $m(c) g(c) = c + c^2$
- $(4) \ \ \frac{m(c)}{g(c)} = \frac{-1}{1-c}$

Question 6.

The formula below can be used to model which scenario?

$$a_1 = 3000$$

 $a_n = 0.80a_{n-1}$

- (1) The first row of a stadium has 3000 seats, and each row thereafter has 80 more seats than the row in front of it.
- (2) The last row of a stadium has 3000 seats, and each row before it has 80 fewer seats than the row behind it.
- (3) A bank account starts with a deposit of \$3000, and each year it grows by 80%.
- (4) The initial value of a specialty toy is \$3000, and its value each of the following years is 20% less.

Question 7.

A solution of the equation $2x^2 + 3x + 2 = 0$ is

(1)
$$-\frac{3}{4} + \frac{1}{4}i\sqrt{7}$$

(3)
$$-\frac{3}{4} + \frac{1}{4}\sqrt{7}$$

(2)
$$-\frac{3}{4} + \frac{7}{4}i$$

$$(4) \frac{1}{2}$$

Question 8.

Which equation has non-real solutions?

A.
$$2x^2 + 4x - 12 = 0$$

B.
$$2x^2 + 3x = 4x + 12$$

$$\mathbf{C.} \quad 2x^2 + 4x + 12 = 0$$

D.
$$2x^2 + 4x = 0$$

Question 9.

Which function represents exponential decay?

(1)
$$y = 2^{0.3t}$$

$$(3) \quad y = \left(\frac{1}{2}\right)^{-t}$$

(2)
$$y = 1.2^{3t}$$

(4)
$$y = 5^{-t}$$

Question 10.

The equation $4x^2 - 24x + 4y^2 + 72y = 76$ is equivalent to

(1)
$$4(x-3)^2 + 4(y+9)^2 = 76$$

(2)
$$4(x-3)^2 + 4(y+9)^2 = 121$$

(3)
$$4(x-3)^2 + 4(y+9)^2 = 166$$

$$(4) \ 4(x-3)^2 + 4(y+9)^2 = 436$$

Bonus Question

Question 11

Solve for *x*:
$$\frac{1}{x} - \frac{1}{3} = -\frac{1}{3x}$$