

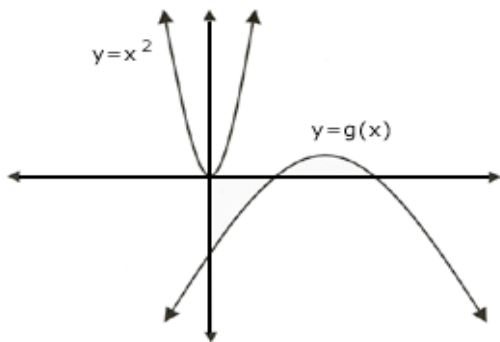
Algebra 2 Open Ended Questions

Scoring Rubric

- 0 Response indicates no appropriate mathematical Reasoning
- 1 Response indicates some mathematical reasoning but fails to address the item's main mathematical ideas
- 2 Response indicates substantial and appropriate mathematical reasoning but is lacking in some minor way(s)
- 3 Response is correct and the underlying reasoning process is appropriate and clearly communicated

1.

Give a reasonable equation for $g(x)$ in the form $g(x) = a(x-h)^2 + K$. **Explain why your equation is reasonable.**



2.

To Solve the equation " $(x - 3) \cdot (x - 2) = 0$ " for real numbers, Juan answered in a single line that " $x = 3$ or $x = 2$ ". **Is this answer correct? If it is correct, how can you show it is correct?**

3.

A student hands in the following work for the following problem.

Solve;

$$x^2 - 14x + 24 = 3$$

$$(x - 12)(x - 2) = 3$$

$$(x - 12)(x - 2) = 3 \cdot 1$$

$$x - 12 = 3 \quad x - 2 = 1$$

$$x = 15 \quad x = 3$$

Is the student correct? Explain your answer.

4.

The solution of the quadratic equation “ $2x^2 = 3x$ ” is given in the following; **According to you, is this solution correct or not? Explain your answer with its reasons?**

Solution:

Step I: $2x^2 = 3x$

Step II: $2xx = 3x$

Step III: $2x = 3$

Step IV: $x = \frac{3}{2}$

5.

Juan and Axel are solving $6x^2 - x = 12$. Is either of them correct? **Explain your reasoning.**

Juan	Axel
$6x^2 - x = 12$	$6x^2 - x = 12$
$x(6x - 1) = 12$	$6x^2 - x - 12 = 0$
$x = 12$ or $6x - 1 = 12$	$(2x - 3)(3x + 4) = 0$
$6x = 13$	$2x - 3 = 0$ or $3x + 4 = 0$
$x = \frac{13}{6}$	$x = \frac{3}{2}$ or $x = -\frac{4}{3}$