

Algebra 1 - Solving Quadratic Equations - Test

Common Core A-REI.B.4a, A-REI.B.4b, A-SSE.B.3a, A-CED.A.1 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

This 45-minute test on quadratic equations covers Common Core A-REI.B.4a, A-REI.B.4b, A-SSE.B.3a, and A-CED.A.1 and is worth 20 points. Work alone, show all steps, and use a calculator only if your teacher allows it. Partial credit is given for correct work, so write down your reasoning even when you are unsure of the final answer.

About this test

- Grade: Algebra 1
- Chapter: Solving Quadratic Equations
- Standards: A-REI.B.4a, A-REI.B.4b, A-SSE.B.3a, A-CED.A.1
- Time: 45 minutes
- Total: 20 points

Question 1 - Square roots [2 pts]

- Solve $x^2 - 64 = 0$. (1 point)
- Solve $3x^2 = 75$. (1 point)

Question 2 - Factoring [2 pts]

Solve $x^2 + 2x - 24 = 0$ by factoring.

Question 3 - Factoring with a leading coefficient [2 pts]

Solve $3x^2 - 10x + 3 = 0$.

Question 4 - Completing the square [2 pts]

Solve $x^2 + 8x + 5 = 0$ by completing the square.

Question 5 - Quadratic formula [2 pts]

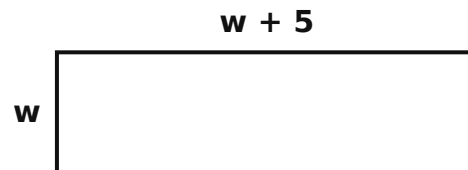
Solve $3x^2 - 2x - 4 = 0$ with the quadratic formula. Leave the answer in simplest radical form.

Question 6 - Discriminant [2 pts]

Equation	Discriminant
$x^2 + 4x + 7 = 0$	?
$4x^2 - 12x + 9 = 0$	?

Equations for question 6.

Find the discriminant of each equation and state the number of real solutions.

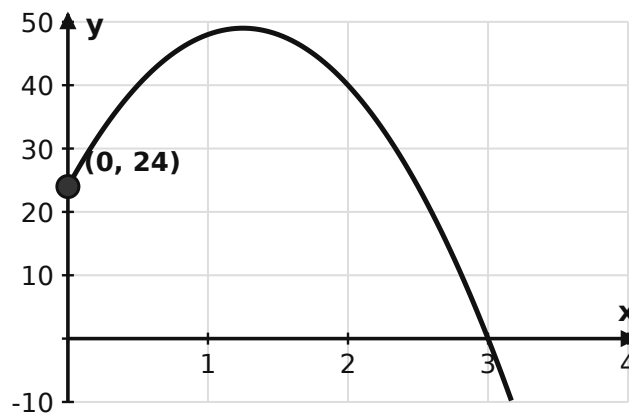
Question 7 - Rectangle area [3 pts]

Area 84 square meters.

The length of a rectangle is 5 meters more than its width w , and its area is 84 square meters.

- Write an equation for the area. (1 point)
- Solve the equation. (1 point)
- State the dimensions. (1 point)

Question 8 - Ball thrown from a platform [3 pts]



Height of a ball thrown from a platform.

A ball's height in feet is $h(t) = -16t^2 + 40t + 24$. The ball hits the ground when $h(t) = 0$.

- Write the equation in simpler form by dividing by the common factor -8 . (1 point)
- Solve it. (1 point)
- Explain which solution is reasonable. (1 point)

Question 9 - Find the error [2 pts]

A student solved $(x-2)^2 = 25$ by writing $x-2=5$, so $x=7$. Explain the error and give all solutions.