

Algebra 2 - Radical and Rational Equations - Test

Common Core A-REI.A.2 · maths-pdf.fr/en/

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

This 45-minute test on radical and rational equations has 9 questions worth 20 points in total. The questions move from direct skills to multi-step problems. Show your work, because partial credit is given for a correct setup and sound reasoning.

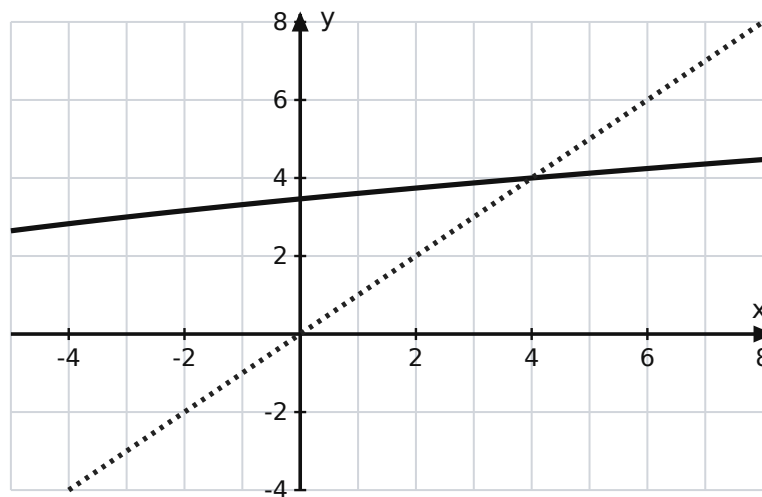
About this test

- Grade: Algebra 2
- Chapter: Radical and Rational Equations
- Standards: A-REI.A.2
- Time: 45 minutes
- Total: 20 points

Question 1 - Basic radical equation [1 pt]

Solve $\sqrt{3x+1}=7$.

Question 2 - Extraneous solution [3 pts]



Graphs of both sides.

Solve $\sqrt{x+12}=x$. Identify any extraneous solution.

Question 3 - Rational equation [2 pts]

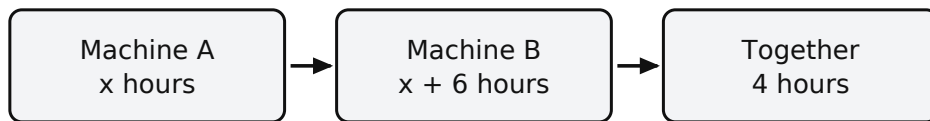
Solve $\frac{5}{x+1} = \frac{2}{x}$.

Question 4 - No solution [3 pts]

Solve $\frac{x}{x+3} = \frac{-3}{x+3} + 2$ and explain your result.

Question 5 - Binomial equals radical [2 pts]

Solve $x-3 = \sqrt{x-1}$.

Question 6 - Two machines [3 pts]

Two machines print a batch.

Machine B takes 6 hours longer than machine A to print a batch of flyers, and together they print it in 4 hours. Write an equation and find the time machine A needs alone.

Question 7 - Free fall [2 pts]

The time for an object to fall h feet is $t = \frac{\sqrt{h}}{4}$ seconds. How far does an object fall in 5 seconds?

Question 8 - Cube root [2 pts]

Solve $\sqrt[3]{x+2} = 3$.

Question 9 - Check by substitution [2 pts]

x	sqrt(x + 4)	x - 2
0	2	-2
5	3	3
-3	1	-5

Compare both sides.

Use the table to decide which of $x=0$, $x=5$, $x=-3$ solves $\sqrt{x+4} = x-2$.