

Algebra One Unit Four Test | Solving Equations of Other Kinds

NAME:	SCORE: / 35 PTS
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Instructions

Solve each equation. Show enough work to justify your solution. Express your solution(s) exactly (no decimal approximations) and in the most simplified form. Although no problem requires the use of a calculator, you are allowed to use your calculator.

Problem Set

1. 5 Points: Solve $\frac{3}{4}x - 5 = \frac{1}{3}(x + 15)$ for x .

2. 5 Points: Solve $3x^2 + 5(x^2 + 7) = 427$ for x .

3. 5 Points: Solve $3(2x + 1)^3 + 4 = 28$ for x .

4. 5 Points: Solve $3(\sqrt{x} - 4) = 32 - \sqrt{x}$ for x .

5. 5 Points: Solve $36 - \frac{1}{2}|x + 2| = 24$ for x .

6. 5 Points: $5 \cdot 3^x + 170 = 7 \cdot 3^x + 8$ for x .

7. 5 Points: The height h , measured in feet, of an object dropped from the top of a 300 meter high tower after elapsed time t , measured in seconds, can be determined by the formula $h = 300 - \frac{1}{2}(32)t^2$. How many seconds must elapse for the object to fall to a height of just 156 above the ground?