BECA/Huson/Precalculus: Regents Prep Name:
20 May 2025

Quiz: Practice Regents problems #1

1. Algebraically solve for x: $5 = \sqrt{2x + 3}$

2. Solve the equation $x = 5 + \sqrt{3x - 11}$ algebraically.

3. Given $x > 0$, simplify and rewrite the expression $3x^{\frac{1}{2}}x^{\frac{3}{2}}$ in radical form.

4. Given $a > 0$, solve the equation $2a^{2x} = \sqrt[3]{8a}$ for x.

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5. A sequence is defined recursively by $a_1 = 3$ and $a_{n+1} = 2a_n - 1$ for $n \geq 1$. Find the first four terms of the sequence.

6. A geometric sequence has a first term of $a_1 = 8$ and a common ratio of $r = \frac{1}{2}$. Write the recursive formula for the sequence.

7. Write the expression $s - t$ in the form $a + bi$ with a, b real numbers, given $s = -7 - 4i$ and $t = 2 - 3i$.

8. Given that x is real number, simplify the expression $xi(3 + 2i)$ and write it in simplest $a + bi$ form with a, b real numbers.