Module 4 Fake Test

Try to complete this test without looking at the last page of answers.

1] Simplify $4 \sqrt{32}$

2] Simplify $3 \sqrt[3]{54}$

3] Simplify $8 \sqrt[3]{5} + 3 \sqrt[3]{5} - 7 \sqrt[3]{5} - 3 \sqrt[3]{5}$

4] Multiply $(4 - 8 \sqrt{2}) (3 - 3 \sqrt{2})$

5] Rationalize the denominator \[
\frac{3}{(3 - 2 \sqrt{2}) + (4 + \sqrt{2})}
\]

6] Rewrite $6 x^{4/3}$ in radical form?

7] Divide \[
\frac{x^{3/4}}{x^{2/3}}
\]

8] Simplify $(x^{4/5})^{3/2}$

9] Simplify $256^{-3/4}$

10] Simplify $i^{34}$

11] Multiply \[(5 - 2i)(3 - 5i)\]

12] Rationalize the denominator of \[
\frac{1}{3 + 2i}
\]

13] Solve $\sqrt{2x + 5} = 3$

14] Solve $\sqrt{3x + 14} = \sqrt{8}$

15] Solve $-4 \sqrt{x - 3} + 5 = 25$

Answers on the next page- Don’t look until you have tried each practice problem.
Answers page- Don’t look until you have tried each practice problem.

Simplify $4 \sqrt{32}$ Answer: $16 \sqrt{2}$

Simplify $3 \sqrt{54}$ Answer: $9 \sqrt{2}$

Simplify $8 \sqrt{5} + 3 \sqrt{5} - 7 \sqrt{5} - 3 \sqrt{5}$ Answer: $5 \sqrt{5} - 4 \sqrt{5}$

Multiply $(4 - 8 \sqrt{2})(3 - 3 \sqrt{2})$ Work: $12 - 12 \sqrt{2} - 24 \sqrt{2} + 48$ Answer: $60 - 36 \sqrt{2}$

Rationalize the denominator $\frac{3}{(3 - 2 \sqrt{2}) + (4 + \sqrt{2})}$
Work: $7 - \sqrt{2}$ More Work: $\frac{3}{7 - \sqrt{2}} \times \frac{7 + \sqrt{2}}{7 + \sqrt{2}}$ Answer: $\frac{1}{47}(21 + 3 \sqrt{2})$

Rewrite $6x^{4/3}$ in radical form? Answer: $6 \sqrt[3]{x^4}$

Divide $x^{3/4}$ Answer: $x^{1/2}$

Simplify $(x^{4/5})^{3/2}$ Answer: $x^{6/5}$

Simplify $256^{-3/4}$ Answer: $\frac{1}{64}$

Simplify $i^{34}$ Work: divide by 4, focus on remainder. 0=1 1=i 2=-1 3=-i Answer: -1

Multiply $(5 - 2i)(3 - 5i)$ Work Answer: $5 - 31i$

Rationalize the denominator of $\frac{1}{3+2i}$
Work: $\frac{3-2i}{3+2i} \times \frac{3-2i}{3-2i}$ more work: $\frac{9-2i+2i-4i^2}{9+4}$ Answer: $\frac{3-2i}{9+4}$

Solve $\sqrt{2x+5} = 3$ Work: $\sqrt{2x+5}^2 = 3^2$ More work: $2x + 5 = 9$ Answer: $x=2$

Solve $\sqrt{3x+14} = \sqrt{8}$ Work: $3x+14=8$ Answer: $x=-2$

Solve $-4 \sqrt{x-3} + 5 = 25$ Answer: No Solution

Great Work! If you want to practice more of these questions, join us in the tutoring room.