

Name _____ Date _____ Period _____

DIRECTIONS: Simplify. If there is not a real root, write “not real” in the blank.

1. $\sqrt{121}$

2. $\sqrt{-9}$

3. $\sqrt[3]{343}$

4. $\sqrt[3]{-8}$

5. $-\sqrt{49}$

6. $\frac{\sqrt{12}}{\sqrt{16}}$

7. $\frac{\sqrt{12}}{\sqrt{10}}$

8. $\sqrt{4b^6}$

9. $\sqrt[3]{27m^{12}}$

DIRECTIONS: Show work to solve each equation. Write the solutions in the provided blanks. If there are no real solutions, write "no solution" in the blank.

10. $3c^2 + 10 = 253$

11. $4d^3 - 6 = 26$

DIRECTIONS: Simplify. Write your answers in the provided blanks. Work must be shown for #17-25.

12. $\sqrt{48}$

13. $\sqrt[3]{250}$

14. $\sqrt{72}$

15. $\sqrt{100n^5}$

16. $\sqrt{50m^{10}}$

17. $\sqrt{5} \bullet \sqrt{30}$

18. $\sqrt[3]{-2y^2} \bullet \sqrt[3]{12y^2}$

19. $\sqrt{5}(\sqrt{10} - \sqrt{15})$

20. $\frac{\sqrt{5}}{\sqrt{20}}$

21. $\frac{\sqrt{49}}{\sqrt{3}}$

22. $\frac{\sqrt[3]{6}}{\sqrt[3]{4x^2}}$

23. $4\sqrt{12} + 3\sqrt{48}$

24. $\sqrt[3]{3} - 3\sqrt[3]{54} + 5\sqrt[3]{81}$

25. $3\sqrt{18} - \sqrt{72} + 5\sqrt{2}$
