

Algebra 2 Year 2
Individual Test 6.1-6.3

Name _____

Date _____ Hour _____

Simplify each expression. Use only positive exponents. SHOW ALL WORK

1. $(5x^2y)(-4x^5y^4)$

2. $(2x^3y^{-4})^3$

1. _____

2. _____

3. $\frac{4x^{-4}y^5}{(3x^3y^{-2})^2}$

4. $\left(\frac{4x^3y^{-2}}{x^{-4}y^3}\right)^{-3}$

3. _____

4. _____

5. Find the cube roots of -125

5. _____

6. Find the fourth roots of -81

6. _____

7. Find the real roots of $\sqrt[4]{0.0016}$

7. _____

8. Find the real roots of $\sqrt{64}$

8. _____

Simplify each radical expression. Assume that all variables are positive.

9. $\sqrt{360x^{18}}$

9. _____

Multiply or divide and simplify. RATIONALIZE THE DENOMINATORS!!

Assume that all variables are positive. SHOW ALL WORK!

10. $\sqrt[4]{81x^5y^4} \cdot \sqrt[4]{32x^3y}$

11. $2^3\sqrt{2xy^2} \cdot \sqrt[3]{4x^2y^5}$

10. _____

11. _____

12. $\frac{\sqrt[3]{48x^3y^2}}{\sqrt[3]{6x^4y}}$

13. $\frac{\sqrt{48x^3}}{\sqrt{3xy^2}}$

12. _____

13. _____

14. $\frac{\sqrt{5}}{\sqrt{8x}}$

15. $\frac{\sqrt[3]{120ab^3c^2}}{\sqrt[3]{10a^3bc}}$

14. _____

15. _____

Simplify each expression completely. Assume that all variables are positive. SHOW ALL WORK!

16. $9\sqrt[3]{4x} + \sqrt[3]{4x}$

17. $\sqrt{125} - 4\sqrt{20} + 2\sqrt{45}$

16. _____

17. _____

18. $(4 - 2\sqrt{3})(4 + 2\sqrt{3})$

19. $(\sqrt{3} + 6)^2$

18. _____

19. _____

20. $(4 + 4\sqrt{5})(2 - 3\sqrt{5})$

21. $\frac{4\sqrt{6}}{3-\sqrt{5}}$

20. _____

21. _____