

Name \_\_\_\_\_ Hour \_\_\_\_\_

**Algebra 2 Quiz REVIEW    NO CALCULATOR    SHOW ALL WORK TO RECEIVE FULL CREDIT**

**Simplify using exponent properties. Use only positive exponents in your final answer.**

1.  $\frac{(4x^2y^3)^2}{8x^4y^7}$  SKIP

1. \_\_\_\_\_

2.  $\left(\frac{r^{-1}s^3}{t}\right)^{-4}$  SKIP

2. \_\_\_\_\_

**Simplify completely.**

3.  $\sqrt{28x^7y^{10}z^5}$

3. \_\_\_\_\_

4.  $\sqrt[3]{b^3c^9}$

4. \_\_\_\_\_

5.  $\sqrt[4]{16x^{36}y^{48}}$

5. \_\_\_\_\_

**Perform the indicated operation. Simplify completely.**

6.  $6\sqrt[4]{5x} - 4\sqrt[4]{5x}$

6. \_\_\_\_\_

7.  $3\sqrt{x} - 5\sqrt{x}$

7. \_\_\_\_\_

8.  $9\sqrt{3} + 2\sqrt{3}$

8. \_\_\_\_\_

9.  $5\sqrt{2} - 2\sqrt{3}$

9. \_\_\_\_\_

10.  $4\sqrt[3]{81} + 2\sqrt[3]{72} - 3\sqrt[3]{24}$

10. \_\_\_\_\_

11.  $4\sqrt{27} + 6\sqrt{3}$

11. \_\_\_\_\_

12.  $\sqrt{28} + 4\sqrt{63} - 2\sqrt{7}$

12. \_\_\_\_\_

13.  $4\sqrt[3]{81} + 2\sqrt[3]{72} - 3\sqrt[3]{24}$

13. \_\_\_\_\_

**Multiply and simplify completely**

14.  $\sqrt{5x^4y^3} \cdot \sqrt{45x^3y}$  14. \_\_\_\_\_

15.  $\sqrt[3]{10x^2y^4} \cdot \sqrt[3]{4x^2y}$  15. \_\_\_\_\_

16.  $(1 + 4\sqrt{10})(2 - \sqrt{10})$  16. \_\_\_\_\_

17.  $(\sqrt{11} - \sqrt{7})(\sqrt{11} + \sqrt{7})$  17. \_\_\_\_\_

18.  $(1 + 7\sqrt{3})(4 + 7\sqrt{3})$  18. \_\_\_\_\_

**Simplify and rationalize all denominators.**

19.  $\frac{\sqrt{12x}}{\sqrt{3}}$  19. \_\_\_\_\_

20.  $\frac{\sqrt{5x}}{\sqrt{2}}$  20. \_\_\_\_\_

21.  $\frac{\sqrt{15x}}{2\sqrt{2}}$  21. \_\_\_\_\_

22.  $\frac{\sqrt[3]{250x^7y^3}}{\sqrt[3]{2x^2y}}$  22. \_\_\_\_\_

23.  $\frac{\sqrt[3]{x^2}}{\sqrt[3]{4}}$  23. \_\_\_\_\_

24.  $\frac{3}{1 + \sqrt{5}}$  24. \_\_\_\_\_

25.  $\frac{5 - 2\sqrt{3}}{2 + \sqrt{3}}$  25. \_\_\_\_\_