

Algebra II Honors Unit 12 Homework  
**NO CALCULATORS!**

1. simplify, no negative exponents:  $\frac{(3x^{-2}y^3)^3}{15x^{-8}y^{12}}$

2. simplify, no negative exponents:  $\frac{(4x^{-3}y^2)^2}{10x^{-9}y^{10}}$

3. simplify, no negative exponents:  $3^{-3} \cdot 4^2$

4. simplify, no negative exponents:  $4^{-2} \cdot 3^3$

5. solve for x:  $y = \sqrt[3]{(x-7)^2} + 5$

6. solve for x:  $y = \sqrt[4]{(x+3)^3} + 6$

7. solve for x:  $27^x = 81$

8. solve for x:  $81^x = 27$

9. solve for x:  $\frac{1}{64} = 32^x$

10. solve for x:  $\frac{1}{32} = 64^x$

11. simplify:  $\sqrt[3]{125^2}$

12. simplify:  $\sqrt[4]{81^3}$