**Algebra 2 CP Worksheet 8.6 Part 2 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Solve each equation. YOU MUST SHOW YOUR WORK ON SEPARATE PAPER.**

1. $10^{x-3}=100^{4x-5}$
2. $36^{x-9}=6^{2x}$
3. $125^{4x}=25^{x-1}$
4. $9^{3x+4}=27^{4x}$
5. $25^{x-3}=\left(\frac{1}{5}\right)^{4x}$
6. $8^{5x}=16^{3x+4}$
7. $27^{2x}=3^{x-7}$
8. $\left(\frac{1}{8}\right)^{x+7}=8^{2x}$
9. $4^{x}-5=3$
10. $2^{x}-3=29$
11. $\left(\frac{1}{3}\right)^{2x-1}-10=-1$
12. $\left(\frac{1}{4}\right)^{3x}=8^{x+1}$