

(C2-3.5) Name:

Homework Questions 5 – Solving Logarithmic Equations

Solve the following equations, give your answers to 3sf where necessary

1. $5^x = 30$

2. $3^x = 62$

3. $7^x = 102$

4. $6^x = 264$

5. $4^{x+2} = 74$

6. $3^{4x} = 837$

7. $9^{2x-1} = 1298$

8. $12^{x-7} = 546$

Convert the following logarithmic statements into an index equation and then solve to 3sf

9. $\text{Log}_2 x = 7$

10. $\text{Log}_5 14 = x$

11. $\text{Log}_3 81 = x$

12. $\text{Log}_2 18 = x$

13. $2^{2x} - 4(2^x) - 5 = 0$

14. $2(3^{2x}) - 9(3^x) + 4 = 0$