

(C2-3.5a) Name:

### Homework Questions 5 – Solving Logarithmic Equations

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

1.  $5^x = 30$

2.11

2.  $3^x = 62$

3.76

3.  $7^x = 102$

2.38

4.  $6^x = 264$

3.11

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

1.10

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

1.53

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

2.13

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

9.54

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

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

128

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

1.64

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

4

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

4.17

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

2.32

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

-0.631,  
1.26