



Name: \_\_\_\_\_

Period: \_\_\_\_\_

**Solve each unless specified. SHOW ALL WORK TO RECEIVE CREDIT! 😊**

1.  $\log_2(5x + 7) = 5$

8.  $2^{3x-4} = 5$

2.  $\log_4 x + \log_4(x - 12) = 3$

9. Evaluate:  $\log_7(-49)$

3.  $\log_2(2x + 1) = \log_2(x + 2) - \log_2 3$

10.  $4 + 3^{x+1} = 8$

4. Evaluate using change of base:  
 $\log_6 40$

11.  $6 - \log_5(3x - 2) = 4$

5. Evaluate using change of base:  
 $\log_6 13$

12.  $\log_2 3 + \log_2 x = \log_2 5 + \log_2(x - 2)$

6.  $4^x = 2^{x+3}$

13.  $\log x + \log(x - 1) = \log(4x)$

7.  $9^{2x} = 66$

14.  $2 \log_4 x - \log_4(x - 1) = 1$

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Why are you drumming on your algebra 2 book with two big sticks?



1.  $\log_2(5x + 7) = 5$

(Y) 5

(D) 7.8

7.  $2^{3x-4} = 5$

(T) 1.48

(S) 2.10

2.  $\log_4 x + \log_4(x - 12) = 3$

(R) 16

(N) No Solution

8. Evaluate:  $\log_7(-49)$

(L) No Solution

(H) -2

3.  $\log_2(2x + 1) = \log_2(x + 2) - \log_2 3$

(I) No Solution

(G) -.20

9.  $4 + 3^{x+1} = 8$

(T) 0.26

(A) -0.21

4. Evaluate using change of base:  
 $\log_6 40$

(E) 2.05

(P) 0.486

10.  $6 - \log_5(3x - 2) = 4$

(H) 9

(A) 10

5. Evaluate using change of base:  
 $\log_6 13$

11.  $\log_2 3 + \log_2 x = \log_2 5 + \log_2(x - 2)$

(O) 0.69

(M) 1.43

(N) 1

(U) 5

6.  $4^x = 2^{x+3}$

12.  $3^{5x-2} = 2^{3x}$

(O) 3

(D) Not here

(A) .64

(I) Not here

1	6	11

12	2	4



8	6	3

2	10	1	9	10	5	7