Algebra 2 Year 2
7.5-7.6 Individual Test **2014**
CALCULATOR

Names_____
Date _____ **Hour** _____

Solve each equation for x. **Round your answer to the nearest hundredth**. **SHOW ALL WORK**

1. $9^x = 45$

1. _____

2. $6^{4x} = 36$

2. _____

3. $8^{3x+4} = 24$

3. _____

4. $5(2^x) = 20$

4. _____

5. $6(5^{x-1}) - 6 = 30$

5. _____

6. $2e^x = 18$

6. _____

Solve for x. **SHOW ALL WORK. Check for extraneous answers.**

7. $\log_5 x = 4$ 7. _____

8. $\log_4(2x-5)=1$ 8 _____

9. $\log_8(5x-3)=\log_8(10x-33)$ 9. _____

10. $2\log_2 x = 6$ 10._____

11. $5+\log_3(2x-4)=9$ 11. _____

12. $\log_6(x)+\log_6(x-1)=12$ 12. _____

13. $\log_5(5x)-\log_5 3=3$ 13. _____

Algebra 2 Year 2
7.5-7.6 Individual Test **2014**
CALCULATOR

48

Names Key
Date _____ **Hour** _____

Solve each equation for x. **Round your answer to the nearest hundredth**. **SHOW ALL WORK**

1. $9^x = 45$

$\log_9 45 = x$

1. 1.73 4

2. $6^{4x} = 36$

$\log_6 36 = 4x$

$\frac{2}{4} = \frac{4x}{4}$ $x = \frac{1}{2}$

2. .5 4

3. $8^{3x+4} = 24$

$\log_8 24 = 3x+4$

$1.53 = 3x+4$

3. −.82 4

4. $\frac{5(2^x)}{5} = \frac{20}{5}$

$2^x = 4$

4. 2 4

5. $6(5^{x-1}) - 6 = 30$

$6(5^{x-1}) = 36$

$5^{x-1} = 6$

5. 2.11 4

6. $2e^x = 18$

$e^x = 9$

6. 2.20 4

20 + Rounding

24

Solve for x. **SHOW ALL WORK. Check for extraneous answers.**

7. $\log_5 x = 4$

$5^4 = x$

7. 625 3

8. $\log_4(2x-5) = 1$

$4^1 = 2x-5$

$9 = 2x$

8 9/2 or 4.5 3

9. $\log_8(5x-3) = \log_8(10x-33)$

$5x-3 = 10x-33$

$30 = 5x$

$x = 6$

9. 6 3

10. $2\log_2 x = 6$

$\log_2 x = 3$

$2^3 = x$

10. 8 4

11. $5 + \log_3(2x-4) = 9$

$\log_3(2x-4) = 4$

$3^4 = 2x-4$

$81 = 2x-4$

$85 = 2x$

$85/2 = x$

11. 85/2 = 42.5 4

12. $\log_{12}(x) + \log_{12}(x-1) = \cancel{12}\ 1$

$x(x-1) = 12$

$x^2 - x = 12$

$x^2 - x - 12 = 0$

$(x-4)(x+3)$

12. $x = 4$, $x = -3$ N.S 5

13. $\log_5(5x) - \log_5 3 = 3$

$5^3 = \frac{5x}{3}$

$125 = \frac{5x}{3}$

$375 = 5x$

$x = 75$

13. 75 5