Exponential & Logarithmic Functions Maze

Name _____ Period _____

Start in the top-left room. Evaluate or solve each problem (round only when told to, and only at the end). Go through the door that shows your answer. Show your work on the answer grid.

START

Evaluate.

$\log_3 81 - \log_2 32$

−1

Expand. Assume $x > 0$.

$\log_5(25x^2)$

$2 + 2\log_5 x$

Solve for x.

$9^x = 27^{x-1}$

3

Solve. Round to the nearest hundredth.

$5^x = 40$

49

$2 + \log_5 x$

$2\log_5 x$

−3

7.5

2.29

0.44

Evaluate.

$\log_9 27$

ln 6

Write as a single logarithm.

$3 \ln 2 + \ln 5 - \ln 10$

0.458

Use change of base. Round to the nearest thousandth.

$\log_6 50$

1.699

Evaluate.

$\ln e^7 - \log 0.01$

18

33

$2{,}700

2.183

12

−6

$\frac{3}{e^2}$

Solve for x.

$3 \cdot 2^{x-1} = 96$

$2,680

$2,000 is invested at 5% compounded quarterly for 6 years.

Find the balance to the nearest dollar.

$\frac{3}{5}$

Solve. Check for extraneous solutions.

$\log_2(x-5) = \log_2(2x+1)$

11

Solve for x.

$\ln(2x) = 3$

5 or −2

$2,695

10

17.3

no solution

20

e^3

Solve. Check for extraneous solutions.

$\log x + \log(x-3) = 1$

5

Money grows at 4% compounded continuously.

How many years to double? Nearest tenth.

1

A sample has a half-life of 12 days.

80 mg now. How many mg remain after 30 days? Nearest tenth.

14.1

FINISH

You made it!

Exp. & Log. Functions Maze: Answer Grid

Name _____ Period _____

Write each answer in the order you found it, and show your work for that room.

1	Answer: _____	Work:
2	Answer: _____	Work:
3	Answer: _____	Work:
4	Answer: _____	Work:
5	Answer: _____	Work:
6	Answer: _____	Work:
7	Answer: _____	Work:
8	Answer: _____	Work:
9	Answer: _____	Work:
10	Answer: _____	Work: