

AGS 3 Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

### Assignment 2.4

Use the given values and the properties of logarithms to find each value, do NOT use a calculator.

Given:  $\log 16 \approx 1.2$        $\log 5 \approx 0.7$        $\log 8 \approx 0.9$

1.  $\log \frac{1}{2} \approx$

2.  $\log \frac{5}{8} \approx$

3.  $\log 25 \approx$

4.  $\log 80 \approx$

Given:  $\log_3 2 \approx 0.6$

$\log_3 5 \approx 1.5$

5.  $\log_3 16 \approx$

6.  $\log_3 108 \approx$

7.  $\log_3 \frac{3}{50} \approx$

8.  $\log_3 \frac{8}{15} \approx$

9.  $\log_3 120 \approx$

10.  $\log_3 18 \approx$

## Refresh Your Memory

Find the value of  $x$  for each equation by rewriting and then using your calculator to solve. Round answers to 3 decimal places if not an exact value.

11.  $\log x = -3$

12.  $\log x = 0$

13.  $\log x = \frac{1}{2}$

14.  $\log x = 1.75$

15.  $\log x = -2.2$

16.  $\log x = 3.67$

17.  $\log x = \frac{3}{4}$

18.  $\log x = 6$

Describe the transformation of each graph from the basic graph, then give the equation of the asymptote.

19.  $f(x) = -5 + \log(x + 2)$

20.  $f(x) = 1 + \log(x - 3)$