

## Ch 10 Section 5 Worksheet Answers

Do NOT use a calculator for the following problems.

If  $\log_a 2 \approx 0.43$  and  $\log_a 3 \approx 0.68$ , find the approximate value of the following logs. (These are not logs base 10, so your calculator will not help you find the correct log value.)

1  $\log_a 6 = 1.11$

2  $\log_a 9 = 1.36$

3  $\log_a \frac{3}{2} = 0.25$

4  $\log_a 12 = 1.54$

5  $\log_a 24 = 1.97$

6  $\log_a 1 = 0$

7  $\log_a 36 = 2.22$

8  $\log_a \sqrt{3} = 0.34$

9  $\log_a \sqrt[4]{2} = 0.1075$

10  $\log_a \sqrt[3]{\frac{2}{3}} = -0.08333\dots$

11  $\log_a \frac{1}{9} = -1.36$

12  $\log_a 5$  Can't be simplified without knowing what the base is.

13  $\log_a \frac{4}{9} = -0.5$

14  $\log_a \sqrt{12} = 0.77$

15  $\log_a \sqrt{2} = 0.215$

16  $\log_a \sqrt[3]{12} = 0.51333\dots$

17  $\log_a \frac{4}{27} = -1.18$

18  $\log_a \frac{9}{16} = -0.36$