

Logarithms – Matching Activity

*** Although there is not a specific SPI for this activity, there are two checks for understanding that will require students to understand these basic problems involving logarithms.

- ✓ 3103.3.13 Solve problems using exponential functions requiring the use of logarithms for their solutions.
- ✓ 3103.3.16 Prove basic properties of logarithms using properties of exponents and apply those properties to solve problems.

This activity will require a bit of advance preparation due to the fact that I could not figure out a way to rotate text and still type superscripts for exponents, subscripts for bases, etc. The next pages contain 18 problems involving introductory problems for a unit on logarithms, a blank hexagon, and a hexagon that shows the placement for the questions, answers, and extra answers. These diagrams may be used for a variety of topics; however, when choosing questions and answers, be sure that all problems and answers (including extra answers) are unique.

To prepare for this activity, write the questions, answers, and extra answers in the appropriate place on the blank hexagon. This activity can be either an individual or group assignment. Students will cut the triangles apart; then they will match each problem with its answer. When worked successfully and problems are matched to correct answers, the resulting shape will be a triangle. Students will need glue sticks or tape to secure their completed triangle to a separate sheet of paper.

Questions, Answers, and Extra Answers for Logarithms Matching Activity

<u>Questions</u>	<u>Answers</u>	<u>Extra Answers</u>
1. $\log_2 256$	1. 8	14
2. $\log_9 729$	2. 3	16
3. $\log_4 256$	3. 4	40
4. $\log_3 243$	4. 5	25
5. $\log_5 5^{11}$	5. 11	-7
6. $\log_2 \frac{1}{32}$	6. -5	-10
7. $\log_3 \frac{1}{81}$	7. -4	-8
8. $\log_7 7$	8. 1	100
9. $\log_5 1$	9. 0	± 17
10. $\log_7 x = 2$	10. 49	64
11. $\log_{216} x = \frac{1}{3}$	11. 6	
12. $\log_{25} x = \frac{3}{2}$	12. 125	
13. $\log_b 81 = 2$	13. 9	
14. $\log_2 (5x - 1) = 6$	14. 13	
15. $\log (x^2 - 134) = 1$	15. ± 12	
16. $\log_3 3^{5x+7} = 17$	16. 2	
17. $\log_7 (2x - 3) = \log_7 (x + 12)$	17. 15	
18. $\log_5 (x^2 + 32) = \log_5 81$	18. ± 7	



