

Classwork 10

College Algebra and Trigonometry, MTH 123, Section 3260, Fall 2011

Instructor: Abhijit Champanerkar

Oct 31st 2011

Name: SOLUTIONS

1. Evaluate the expressions:

$$1. \log_9 81 = b \Rightarrow 9^b = 81 = 9^2 \Rightarrow b = 2$$

$$2. \log_2 16 = b \Rightarrow 2^b = 16 = 2^4 \Rightarrow b = 4$$

$$3. \log_9 \sqrt{3} = b \Rightarrow 9^b = \sqrt{3} = 3^{1/2} = 9^{1/4} \text{ (as } 9^{1/2} = 3) \\ b = 1/4$$

$$4. 2^{\log_2 7} = 7$$

2. Use definition of logarithm to find x :

$$1. \log_3 x = 2 \quad x = 3^2 = 9$$

$$2. \log_4 x = 2 \quad x = 4^2 = 16$$

$$3. \log_x 8 = 3/2 \quad 8 = x^{3/2} = 4^{3/2} \\ x = 4$$