1. What is the value of , where  represents the greatest integer less than or equal to ?



a) -2 b) -1 c) 0 d) 1 e) NOTA

1. If , find .



a) 93 b) 101 c) 1000 d)  e) NOTA

1. Find the value of .

a) 1 b) 5 c) 7 d)  e) NOTA

1. Find all possible values for if , where 121 is in number base .



a) -6 b) -4, 6 c) 6 d) No solutions e) NOTA

1. When two un-weighted dice are rolled, let be the sum of the two numbers that appear on the dice. What is the probability that is an integer?



a)  b)  c)  d)  e) NOTA

1. If , which of the following is equivalent to 

a)  b)  c)  d) Both (b) and (c) e) NOTA

1. Find the constant term in the expansion of .



a) 495 b) 924 c) 59136 d) No such term exists e) NOTA

1. Simplify: 

a)  b)  c)  d)  e) NOTA

1. Simplify: 

a)  b)  c)  d)  e) NOTA

1. If , then which of the following is equivalent to ?



a)  b)  c)  d)  e) NOTA

1. Which of the following is equivalent to in terms of  where  is an integer greater than or equal to 2?



a) 0 b)  c)  d) 1 e) NOTA

1. If , find .



a)  b)  c)  d)  e) NOTA

1. Find . (Hint: Think Pascal’s Triangle)



a) 2 b) 4 c) 8 d) 16 e) NOTA

1. Solve the inequality: 

a)  b)  c)  d) No solutions e) NOTA

1. If , what is the value of , where  is a real number?

a)  b) 18 c) 24 d)  e) NOTA

1. Find all real numbers  such that .

a)  b) 0,  c)  d)  e) NOTA

1. Suppose Katie and Zach are building a house together. If Katie can build the house by herself in  hours and Zach can build the house by himself in  hours, how long will it take them to build the house together?

a)  b)  c)  d)  e) NOTA

1. Continue using the information given in problem 17. If Katie and Zach were to each individually build a house, who would finish first?

a) Katie b) Zach c) Both would finish at the same time d) Not enough information e) NOTA

1. If , what is ?

a)  b)  c)  d)  e) NOTA

1. If  (when  is a natural number), what is the value of ?

a) 4 b) 7 c)  d)  e) NOTA

1. Solve for : 

a) 2 b) 4 c) 8 d) 16 e) NOTA

1. What is the units digit of ?

a) 0 b) 2 c) 4 d) 6 e) NOTA

1. What is/are the solution(s) to ?

a) 3 b) -2, -1 c) -2, 7 d) -1, 3 e) NOTA

1. Given that  and , which of the following identities is false?

a)  b)  c)  d)  e) NOTA

1. The equation  describes what type of conic?

a) A point b) A circle c) An ellipse d) A hyperbola e) NOTA

1. If , what is 

a)  b)  c)  d)  e) NOTA

1. Find .

a)  b)  c)  d) 1 e) NOTA

1. Which of the following has the same value as ?

a)  b)  c)  d)  e) NOTA

1. Let  be consecutive integers such that  Simplify: 

a) -1 b)  c)  d)  e) NOTA

1. What is the value of ?

a) -4 b) 0 c) 4 d) 1996 e) NOTA