

QUIZ 1 - MATH 111

Friday, August 30

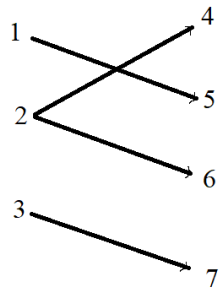
YOUR NAME: \_\_\_\_\_

George Voutsadakis

Read each problem **very carefully** before starting to solve it and do only what is asked. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. [4 points] Consider the relations  $R$  and  $S$  given, respectively, by the table and the arrow diagram shown below.

$x$	1	2	3	4	5
$y$	2	4	6	4	1



Fill-in with Y (“Yes”), N (“No”) or N/A (“Not Applicable”) the four rectangles in the table below.

	Function	One-To-One
$R$		
$S$		

2 [8 points] Consider the function

$$f(x) = x^2 + 4x - 3$$

(a) Compute  $f(2)$ .

(b) Compute and simplify  $f(2 + h)$ .

(c) Compute and simplify  $\frac{f(2 + h) - f(2)}{h}$ .

(d) Solve the equation  $f(x) = 18$  for  $x$ .