

Exercises with Functions

(1) If $f(x) = x^2$, $g(x) = 2x - 1$, $h(x) = |x|$, $j(x) = |x - 1|$,

fill in the table and sketch the graphs of the functions:

x	-3	-2	-1	0	1	2	3
$f(x)$							
$g(x)$							
$h(x)$							
$j(x)$							

Solution

Find the range of each function, assuming that the domain is $[-3, 3]$.

Solutions

(1)

x	-3	-2	-1	0	1	2	3
$f(x)$	9	4	1	0	1	4	9
$g(x)$	-7	-5	-3	-1	1	3	5
$h(x)$	3	2	1	0	1	2	3
$j(x)$	4	3	2	1	0	1	2

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The range of f is $[0, 9]$, of g : $[-7, 5]$, of h : $[0, 3]$, of j : $[0, 4]$.

