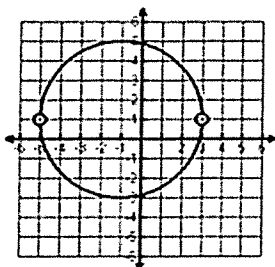


Domain and Range Practice II

Do the following for each relation:

- State the domain and range in interval notation
- Determine if the relation represents a function
- Explain your reasoning using the words "domain" and "range" *x, y, exactly, each*

1)



Domain: $(-3, 3)$

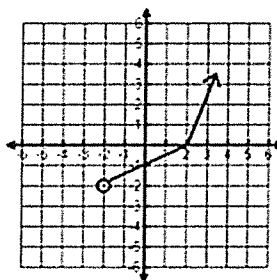
Range: $[3, 1) \cup (1, 5]$

(y=1 is not on graph)

Function? *No*

Explanation: *Most x's have 2 y's*

2)



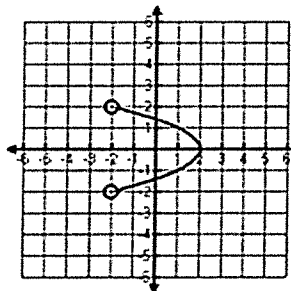
Domain: $(-2, \infty)$

Range: $(-2, \infty)$

Function? *Yes*

Explanation: *Each x has exactly 1 y*

3)



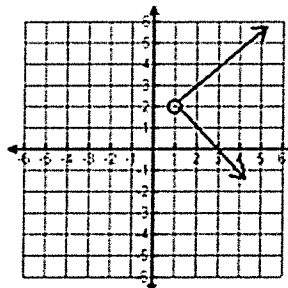
Domain: $(-2, 2]$

Range: $(-2, 2)$

Function? *No*

Explanation: *Most x's have 2 y's*

4)



Domain: $(1, \infty)$

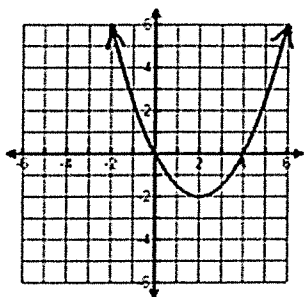
Range: $(-\infty, 2) \cup (2, \infty)$

(y=2 is not on graph)

Function? *No*

Explanation: *Most x's have 2 y's*

5)



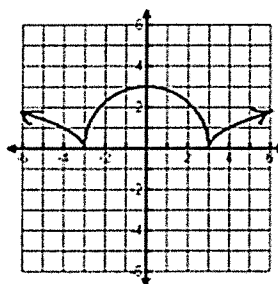
Domain: $(-\infty, \infty)$

Range: $[-2, \infty)$

Function? *Yes*

Explanation: *Each x has exactly 1 y*

6)



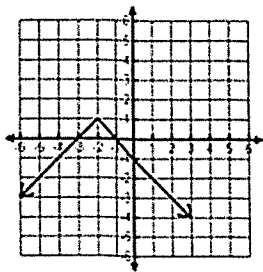
Domain: $(-\infty, \infty)$

Range: $[0, 3]$

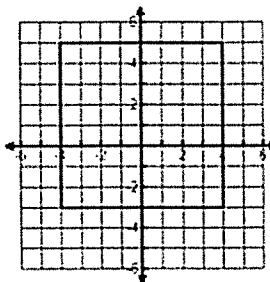
Function? *Yes*

Explanation: *Each x has exactly 1 y*

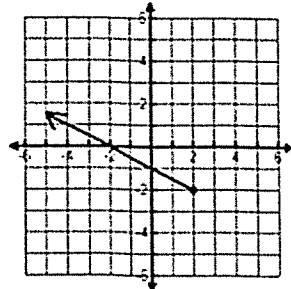
7)

Domain: $(-\infty, \infty)$ Range: $(-\infty, 1]$ Function? *yes*Explanation: *each x has exactly 1 y.*

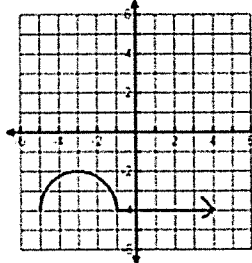
8)

Domain: $[-4, 4]$ Range: $[-3, 5]$ Function? *No*Explanation: *x-values have 2 or more y's*

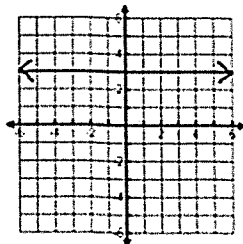
9)

Domain: $(-\infty, 2]$ Range: $[-2, \infty)$ Function? *yes*Explanation: *each x has exactly 1 y*

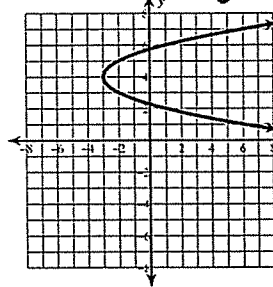
10)

Domain: $[-2, 2]$ Range: $[-4, -2]$ Function? *yes*Explanation: *each x has exactly 1 y*

11)

Domain: $(-\infty, \infty)$ Range: $[3]$ Function? *yes*Explanation: *each x has exactly 1 y*

12)

Domain: $[-3, \infty)$ Range: $(-\infty, \infty)$ Function? *No*Explanation: *Most x's have 2 y's*13) Sketch a function that has a domain of $(-7, 2]$ and a range of $(2, 8]$ *$(-7, 2)$ to $(+2, 8)$* 