3.1a Notes - Features of Functions

1. increasing → climbing, going uphill
2. decreasing → going downhill
3. domain → what x-values make sense?
4. range → what y-values make sense?
5. x intercepts → where it crosses the x-axis
6. y intercepts → where it crosses the y-axis
7. maximum → highest value
8. minimum → lowest value

Function - each input (x) has its own output (y)

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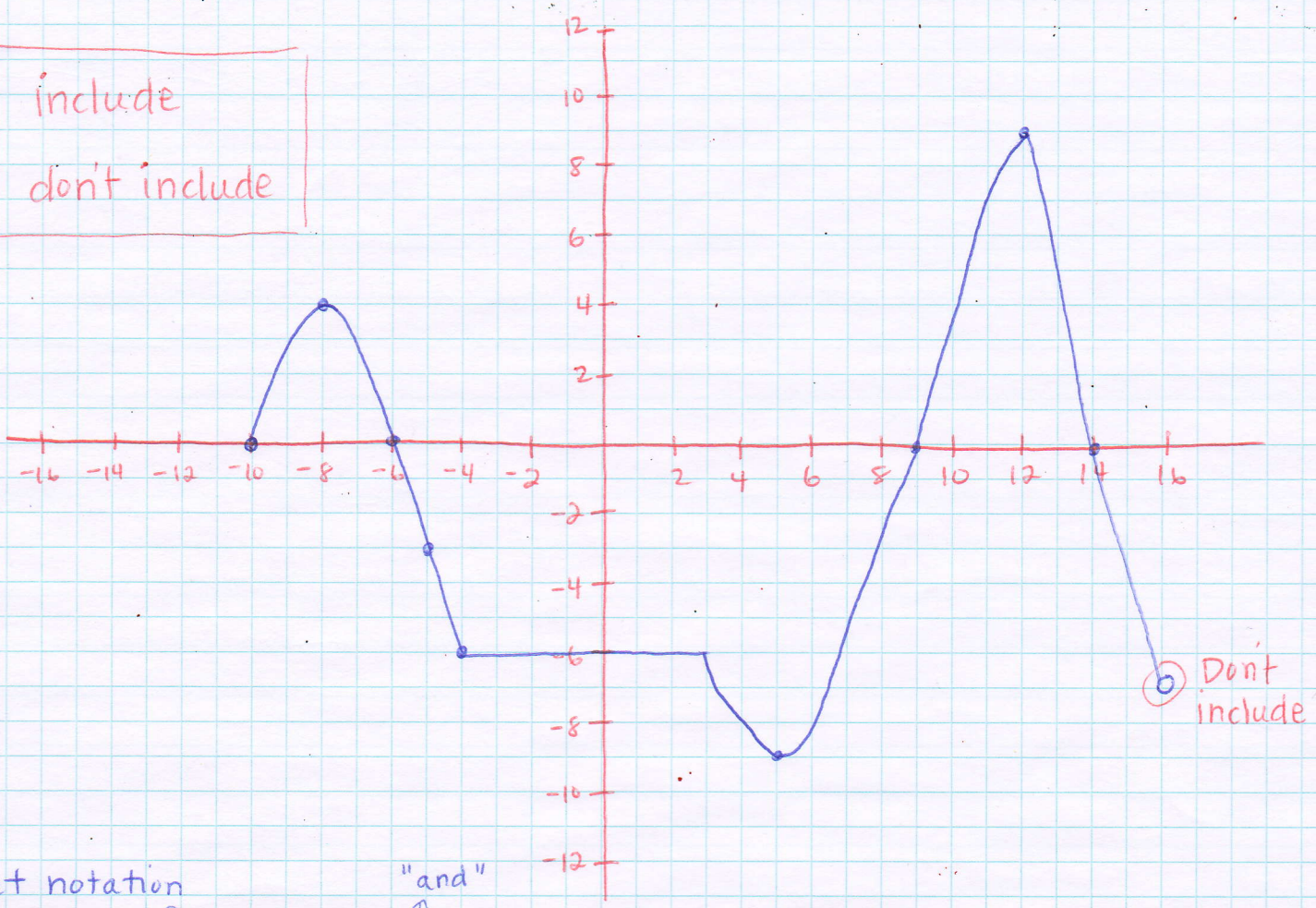

set notation

"and"

① increasing $[-10, 8) \cup (5, 12)$

② decreasing $(-8, -4) \cup (3, 5) \cup (12, 16)$

③ domain $\{x \mid -10 \leq x < 16\}$ / $[-10, 16)$ → interval notation

④ range $\{y \mid -9 \leq y \leq 9\}$ / $[-9, 9]$

⑤ x int $(-10, 0)$, $(9, 0)$, $(-6, 0)$, $(14, 0)$

⑥ y int $(0, -6)$

⑦ maximum 9

⑧ minimum -9