Negate:

d) For all $y \in \mathbb{R}$ there exists $x \in \mathbb{R}$
   w/ $3 < y - x$ and $x - y < 5$.

Answer:

There is a $y \in \mathbb{R}$
such that for all $x \in \mathbb{R}$
$3 \geq y - x$ or $x - y \geq 5$.

not $(A$ and $B)$

$= ($not $A)$ or (not $B)$

not A	not B	A and B	not A and not B
F	F	T	F
F	T	F	F
T	F	F	F
T	T	F	T

A	B	(not A) or (not B)
T	T	F
T	F	T
F	T	T
F	F	T