

2. Let P = The Curiosity Rover is on Mars.

Q = The Curiosity Rover is a good robot.

R = The Mars Polar Lander is a good robot.

And we know that P , $Q \vee R$, and $R \implies \neg P$ are all true. From $R \implies \neg P$,

R	$\neg P$	$R \implies \neg P$
T	T	T
T	F	F
F	T	T
F	F	T

(*)

As $\neg P$ is false, the bottom row (*) intersects with $R \implies P$. So, R must be false.

(a) True. Since $Q \vee R$ is true and R is false, Q must be true.

(b) False. Shown above, R is false.