Truth Tables

Complete the following truth table.

P	Q	R	P ∧ R	~ Q	Q ∨ R	P ∧ ~ Q
T	T	T	T	F	T	F
T	T	F	F	F	T	F
T	F	T	T	T	T	T
T	F	F	F	T	T	T
F	T	T	F	F	T	F
F	T	F	F	F	T	F
F	F	T	F	T	F	F
F	F	F	F	T	F	F

Do the following compound propositions form a consistent system? P ∧ R, ~ Q, Q ∨ R, P ∧ ~ Q

Answer: Yes, due to the third line of the truth table.

Complete the following truth table.

P	Q	R	P ∨ R	~ Q	P ∧ Q	~ Q ∨ R
T	T	T	T	F	T	T
T	T	F	T	F	T	F
T	F	T	T	T	F	T
T	F	F	T	T	F	T
F	T	T	T	F	F	T
F	T	F	T	F	F	F
F	F	T	F	T	F	T
F	F	F	F	T	F	T

Do the following compound propositions form a consistent system? P ∨ R, ~ Q, P∧Q , ~Q ∨ R

Answer: No, since there is no line in the truth table where all of the statement are true at the same time.