1 Identification of propositions and eventual truth values.

a) The sentence "Boston is the capital of Massachusetts." is a proposition, the truth value is true.

b) The sentence "Miami is the capital of Florida." is a proposition, the truth value is false.

c) $2 + 3 = 5$ is a proposition, the truth value is true.

d) $5 + 7 = 10$ is a proposition, the truth value is false.

e) $x + 2 = 11$ is not a proposition.

f) The sentence "Answer this question." is not a proposition.

2 Identification of propositions and eventual truth values.

a) The sentence "Do not pass go." is not a proposition.

b) The sentence "What time is it?" is not a proposition.

c) The sentence "There are no black flies in Maine." is a proposition, the truth value is false since there are black flies in Maine.

d) $4 + x = 5$ is not a proposition.

e) The sentence "The moon is made of green cheese." is a proposition, the truth value is false.

f) $2^n > 100$ is not a proposition.

3 Some propositions and the corresponding negations.

a) Mei has an MP3 player.
Mei does not have an MP3 player.

b) There is no pollution in New Jersey.
There is pollution in New Jersey.

c) $2 + 1 = 3$
$2 + 1 \neq 3$

d) The summer in Maine is hot and sunny.
The summer in Maine is not hot and sunny.

4 Let p and q be the propositions

p : I bought a lottery ticket this week.

q : I won the million dollar jackpot.

Below follows some propositions based around the above propositions. Each proposition is accompanied by an example of how it can be expressed as an English sentences.

a) $\neg p$ – I did not buy a lottery ticket this week.