Tutorial Sheet 7
(Answers)

1.   a) T   b) F   c) F

2. $\{e,o\}$

3.   a) There is a student who spends more than five hours every weekday in class.

b) Every student spends more than five hours every weekday in class.

c) There is a student who does not spend more than five hours every weekday in class.

d) No student spends more than five hours every weekday in class. (Or, equivalently,

every student spends less than or equal to five hours every weekday in class.)

4.   a) T   b) T   c) F

d) F   e) T (let $x = 1$)   f) F (let $x = 2$).

5.   The truth set of P is the set of negative integers, so the truth set of $\sim P$ is
$\{0,1,2,3,4,5....\}$.
The truth set of Q is $\{....,-1,0,1,2,3,4\}$.
Thus, the truth set of $\sim P \wedge Q$ is the intersection of these sets: $\{0,1,2,3,4\}$.