

Test Your Understanding: Week 1

- Define a proposition.
- Which of the following are propositions? Give their truth values if possible.
 - I ate MacDonalds for supper last night.
 - There is a planet circling Sirius that holds alien life forms.
 - 12 is a prime number.
 - Go the mighty Adelaide Crows!
 - Do you barrack for the Crows?
- Write the following propositions symbolically, if the following are defined.
 p : I pass my Maths exam
 q : I go out for dinner
 r : I party hard with my friends
 - I go out for dinner and party hard with my friends.
 - I party hard with my friends or I pass my Maths exam.
 - If I pass my Maths exam then I go out for dinner or party hard with my friends.
 - I go out for dinner if and only if I pass my Maths exam.
- Complete the truth tables below.

(a)

p	q	$p \wedge \neg q$
T		
T		
F		
F		

(b)

p	q	$p \rightarrow \neg q$
T		
T		
F		
F		

(c)

p	q	$\neg p \leftrightarrow q$
T		
T		
F		
F		

- State which of the following integers are odd and which are even. If they are even, then write them in the form $n=2k$. If they are odd, then write them in the form $n=2k+1$.
 - $n=6$
 - $n=11$
 - $n=-8$
 - $n=-17$