

## Quiz 2

1. (a) If  $x, y$ , and  $z$  are odd integers,  
then  $x+y+z$  is an odd integer.

(b) If  $x, y, z$  are consecutive integers, then  $3 \mid (x+y+z)$ .

(Also: If  $x$  is an integer, then)  
 $3 \mid x + (x+1) + (x+2)$

2. (a) Only  $B \Rightarrow A$  is true:

$A \Rightarrow B$  false, for example

$$x = -1, y = -2$$

(b)  $A \Rightarrow B, B \Rightarrow A, A \Leftrightarrow B$  all true!

If  $x = 1$  or  $y = 0$ , then  $xy = y$  is ok.

but also  $xy = y \Rightarrow xy - y = 0 \Rightarrow$

$(x-1)y = 0 \Rightarrow x-1 = 0$  or  $y = 0$  ok.