

## 2.1 Conditional statements

conditional	$p \rightarrow q$	(p to q OR if p, then q)
converse	$q \rightarrow p$	

Conditional statement:

If - then statement  
↑            ↑  
hypothesis   conclusion  
(p)        (q)

If two lines intersect to form right angles,  
then they are perpendicular

If  $x - 38 = 3$ , then  $x = 41$   
↑                            ↑  
hypothesis                conclusion

Write a conditional based on this statement.

- A rectangle has four right angles

If a figure is a rectangle, then it has four right angles

Truth value: A conditional can have a truth value of true or false

True

\* To show that a conditional is true, show that every time the hypothesis is true, the conclusion is also true

False

\* To show that a conditional is false, show one counterexample for which the hypothesis is true, and the conclusion false

Converse: The converse of a conditional switches the hypothesis and conclusion

Here's the conditional:

If two lines intersect to form right angles  
then they are perpendicular

Write the converse

If two lines are perpendicular, then they intersect to form right angles.