9.3 If- then Statements

Two parts
Hypothesis Conclusion

If P then q

conditional statement

If $x+5=8$ then $x=3$.

If $x^2=9$ then $x=3$

x could be -3

If $x=3$ then $x^2=9$

If P then q

conditional

If q then P

converse

If it is sunny then we play outside

If we play outside then it is sunny

Zero product Property

If $ab=0$ then $a=0$ or $b=0$

If $(x-2)(x+3)=0$

then $x-2=0$ or $x+3=0$

$x=2,-3$

$(3x-5)(2x+4)=0$ $x=-2,\frac{5}{3}$

$3x-5=0$ $2x+4=0$

$3x=5$ $2x=-4$

$x=\frac{5}{3}$ $x=-2$

Converse to Pythagorean Theorem

If $a^2+b^2=c^2$ then it's a right Triangle

If $a^2+b^2\neq c^2$ then its not a right Triangle

5, 12, 13

$5^2+12^2=13^2$

$25+144=169$

$169=169$

6, 8, 9

$6^2+8^2=9^2$

$36+64=81$

$100\neq 81$