Pre-Teach Phil & Ned
(Pythagorean Theorem & Its Converse)

Name: 6th

8.GM.B.6 Distinguish between applications of the Pythagorean Theorem and its Converse in authentic contexts.

Can you think of an "If → then" statement?

IF THERE IS ICE ON THE WINDSHIELD
THEN IT IS BELOW FREEZING.

↑ HYPOTHESIS

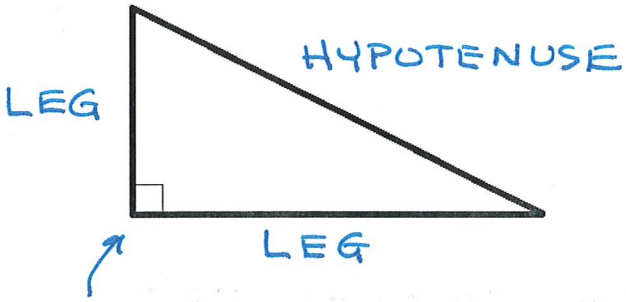
↑ CONCLUSION

The CONVERSE of the statement switches the hypothesis and conclusion.

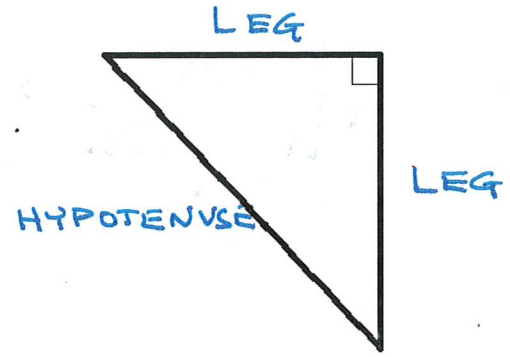
CONVERSE: IF IT IS BELOW FREEZING
THEN THERE IS ICE ON THE WINDSHIELD.

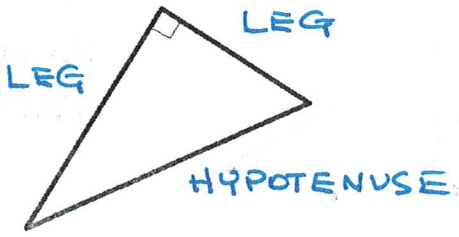
Pythagorean Theorem

If we have a right triangle...



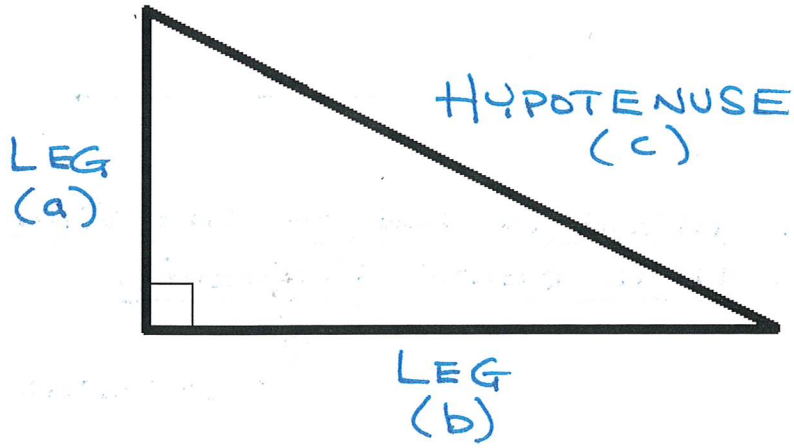
RIGHT ANGLE (90°)





...then Pythagorean Theorem works.

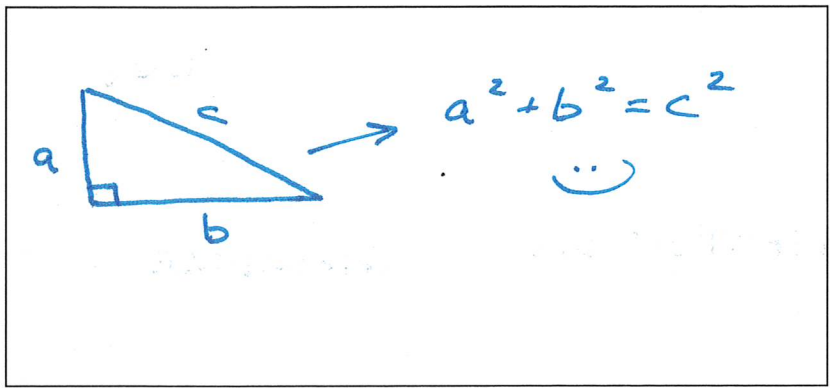
Pythagorean Theorem: In all right triangles, the sum of the squares of the legs is equal to the square of the hypotenuse.



$$(leg)^2 + (leg)^2 = (hypotenuse)^2$$

$$a^2 + b^2 = c^2$$

Pythagorean Theorem: IF WE HAVE A RIGHT TRIANGLE, THEN PYTHAGOREAN THEOREM WORKS.



The Converse of Pythagorean Theorem: IF PYTHAGOREAN THEOREM WORKS, THEN WE HAVE A RIGHT TRIANGLE.