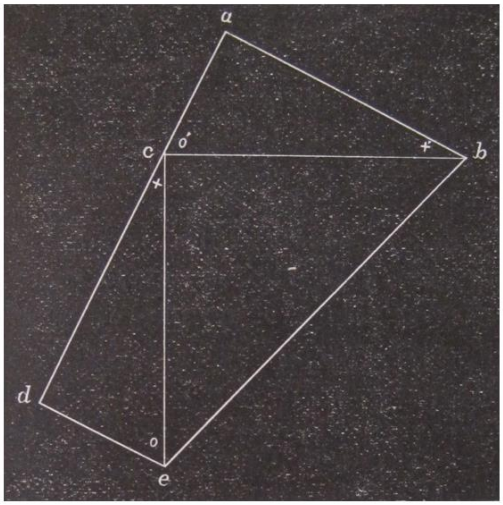
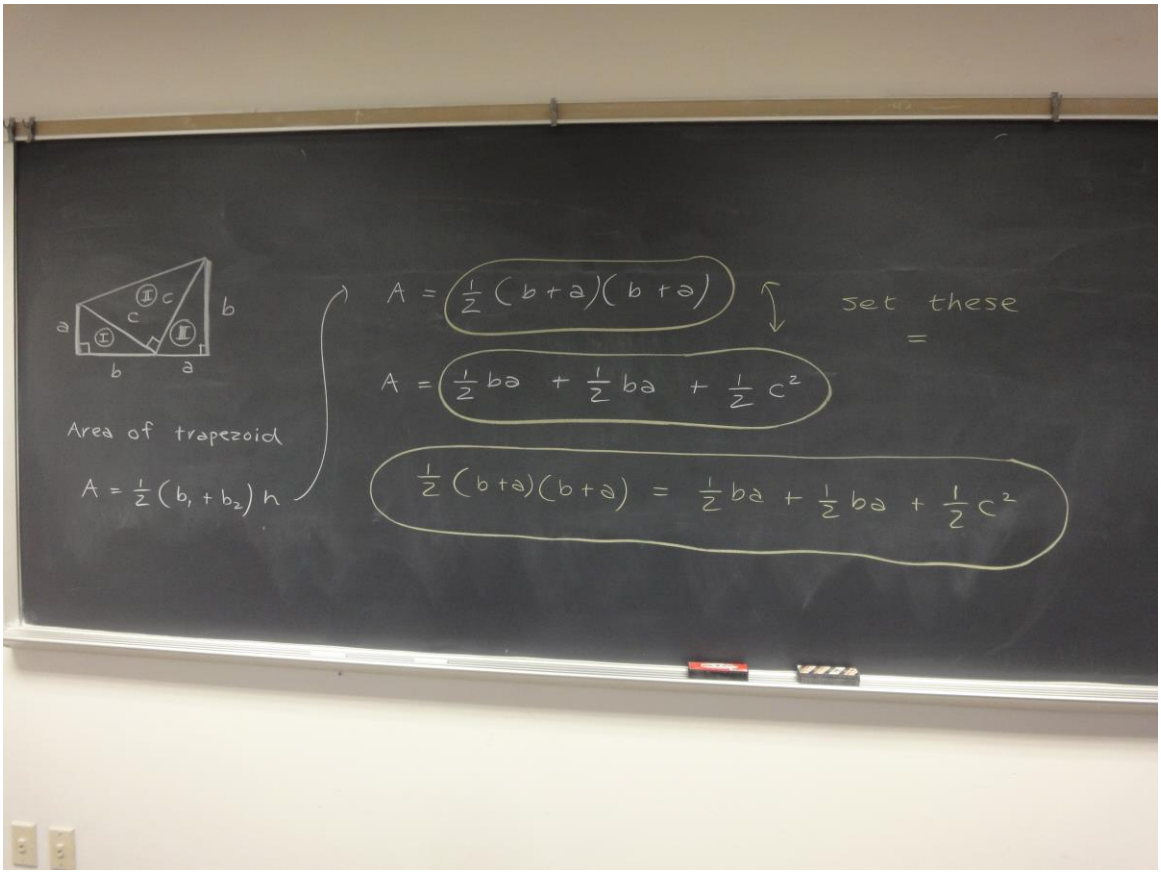
Pythagorean Theorem (James Garfield, 1876)

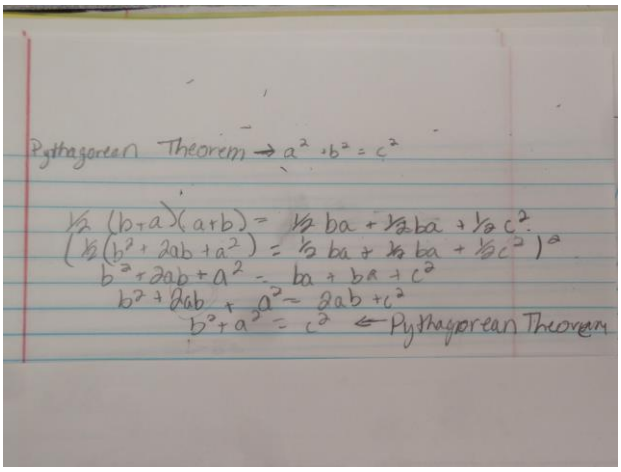


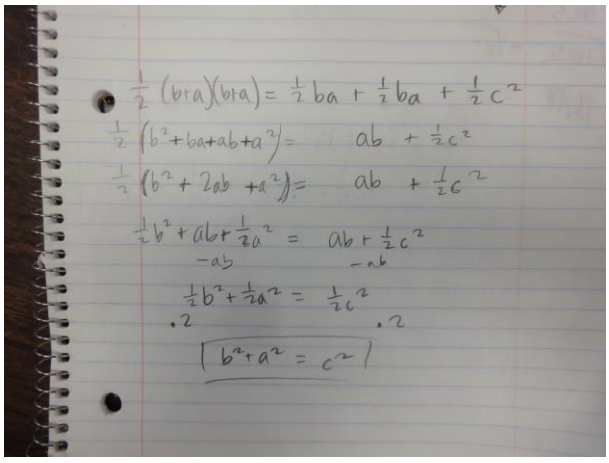
Source: Scientific American, Evelyn Lamb

Set the area of the trapezoid equal to the area of the three right triangles:



Play around with both sides of the equation and the Pythagorean Theorem emerges!!! (Two different solutions):





A different problem…

Football, anyone?

Take a long rope, tie it to the bottom of the goal post at one end of a football field. Then run it across the length of the field (120 yards) to the goal post at the other end. Stretch it tight, and then tie it to the bottom of that goal post, so that it lies flat against the ground.

Now suppose you add one foot of slack to the rope, so that now you can lift it off the ground at the 50-yard line. How high can you lift it up?

(a) Not high enough to fit my finger under it.

(b) Just high enough to crawl under.

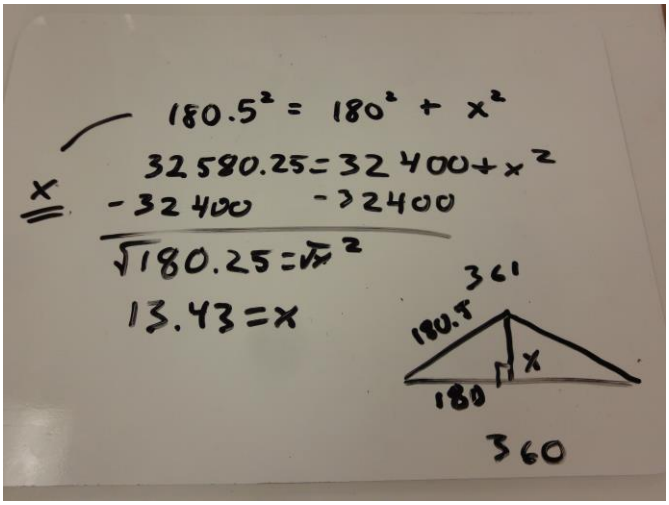
(c) Just high enough to walk under.

(d) High enough to drive a truck under.

JUSTIFY YOUR ANSWER!!

Source: Math Fun Facts

A solution:



(D) 13.43 feet ⇒ High enough to drive a truck under!