

There are two fields whose total area is 1800 square yards. One produces grain at the rate of $\frac{2}{3}$ of a bushel per square yard while the other produces grain at the rate of $\frac{1}{2}$ of a bushel per square yard. If the total yield is 1100 bushels, what is the size of each field?

To the absolute number multiplied by four times the square, add the square of the middle term; the square root of the same, less the middle term, being divided by twice the square is the value.

What is the square which combined with ten of its roots will give a sum total of 39? The manner of solving this type of equation is to take one-half of the roots just mentioned. Now the roots in the problem before us are 10. Therefore take 5, which multiplied by itself gives 25, an amount which you add to 39 giving 64. Having taken then the square root of this which is 8, subtract from it half the roots, 5 leaving 3. The number three therefore represents one root of this square, which itself, of course is 9. Nine therefore gives the square.

$\sqrt{-9}$ is neither $+3$ nor -3 but is some recondite third sort of thing... You will have to imagine $\sqrt{-15}$... Dismissing mental tortures, and multiplying $5 + \sqrt{-15}$ by $5 - \sqrt{-15}$, we obtain $25 - (-15)$. Therefore the product is 40... and thus far does arithmetical subtlety go, of which this, the extreme, is, as I have said, so subtle that it is useless.