

when silver is sold at £2 11s. 9d. per lb., find the weight of the silver.

Section 6.

1. What is the relation between discount, present worth and amount?

In how many years will £675 10s. amount to £945 14s. at 4 per cent. simple interest?

2. A bankrupt's debts amount to £3,750, he pays 13s. in the pound, and defrauds his creditors by concealing $\frac{1}{3}$ of his assets; find the value of his estate.

3. A man invests £4,000 in four sums of 800, 900, 1,100, 1,200 to produce 2 $\frac{1}{2}$, 3, 3 $\frac{1}{2}$ and 3 $\frac{3}{4}$ per cent. simple interest respectively per annum; find the gain in income if the whole had been invested to produce 3 $\frac{1}{2}$ per annum.

Section 7.

1. Find the square root of 38259.36, and the cube root of 7077.888.

2. A metal is mixed with each of two others in the ratio of 7 : 8 and 5 : 6 respectively, and its value is to those of the others as 3 : 1 and 4 : 1 respectively; find the value of a quantity of the second mixture equal in weight to a quantity of the first that costs £3,190.

3. A charity sells out 10,000 consols at 97 $\frac{1}{4}$, and invests the proceeds in railway debentures at 160; what interest must the debentures pay that the income of the charity may be increased by £80 per annum, no charge being made for brokerage?

Section 8.

1. Two rooms whose breadths are 17 and 13 feet, lengths 19 and 16 feet, and heights 10 and 9 feet respectively, are covered with papers of different values, each two feet wide; if the difference in the two costs be £1 7s. according as the larger room is papered with the dearer or cheaper paper; find the difference in prices per yard of the paper.

2. Copper is 8.96 times as heavy as water; what will a cube of copper, whose edge is 9 inches, weigh when suspended in water, if it lose a weight equal to that of the water displaced, a cubic foot of water weighing 1,000 ounces?

3. Three clocks occupy respectively 33, 22, 11 seconds in striking twelve, and lose 36, 24, 12 seconds daily respectively; if they begin to strike together at 4 p.m. on March 31, on what day will they all strike twelve separately for the first time? Which two will first strike twelve separately?

THAT teacher is likely to be the most successful who makes a specialty of every subject he teaches. To do this both he and his scholars must do more than be the slavish followers of a text-book. This is a rational statement of what there is a great deal of irrational talk about among our neighbours at the present time under the name of the "Quincy Plan." It is as absurd now as it was in Euclid's time to suppose that by this or any other educational nostrum the difficulties of imparting and acquiring knowledge

will be removed. The chief good that we can hope from this Quincy craze is that many teachers will be confirmed in, and others will be led to adopt, natural and rational methods of training their scholars. If it has the effect, not of doing away with text-books, for that would be educational suicide, but of using them as a staff rather than a crutch, thus giving the teacher an opportunity of using his own mind and character as an important factor in the training of his scholars, it will have served a good purpose.