

mark the position of the principal towns and cities.

6. Define — Delta, Oasis, Longitude, Zenith, Horizon, Zone, Watershed.

7. Where and what are the following :— Alexandria, Blanc, Capricorn, Euphrates, Iowa, Jersey, Kars, Land's End, Potosi, Queenston, Riga, Madeira, Congo, Vienna, Tel-el-Kebir, Hobart Town, Funen, Helligoland, Arran?

8. State the population of the Dominion, and mention the chief exports of each Province.

ARITHMETIC.

1. From 935 take 846, explaining clearly the reason for each step.

The difference between 82610 and the product of two numbers is seventy million three hundred thousand. One of the numbers is 9402; find the other.

2. Find the amount of the following bill: 36 lbs. 8 oz. beef at 16c.; 16 lbs. 10 oz. mutton at 14c.; 7 lbs. 12 oz. pork chops at 12c.; 15 lbs. 6 oz. turkey at 18c.; 4 lbs. 10 oz. suet at 16c.

3. Find the L.C.M. of 11, 14, 28, 22, 7, 56, 42, 81; and the G.C.M. of 40545, 124083.

4. Prove that $\frac{2}{3}$ of 1 = $\frac{1}{2}$ of 3.

Simplify

$$\frac{\frac{1}{2} - \frac{1}{3} \text{ of } \frac{1}{4}}{\frac{1}{5} + \frac{1}{7} \text{ of } 3\frac{1}{2} - (\frac{1}{2} \text{ of } \frac{1}{3} - \frac{1}{4})} \div \frac{\frac{1}{2} \text{ of } \frac{1}{4} + \frac{1}{5} \text{ of } 5}{9\frac{1}{2} + 1\frac{1}{2}}$$

5. Prove that $1.025 \div .05 = 20.5$.

Find the cost of .0625 of 112 lbs. sugar, when 1 lb. costs .0703125 of 16s.

6. Reduce 45740108 square inches to acres.

7. The bottom of a cistern is 7 ft. 6 in. by 3 ft. 2 in. How deep must it be to contain 3750 lbs. of water, a cubic foot of water weighing 1000 ounces?

8. A runs a mile race with B and loses; had his speed been a third greater he would have won by 22 yards. Find the ratio of A's speed to B's.

9. A does $\frac{3}{8}$ of a piece of work in 6 hours; B does $\frac{2}{3}$ of what remains in 2 hours; and C finishes the remainder of the work in 30 minutes. In what time would all working together do the work?

10. By selling tea at 60c. per pound a grocer loses 20 per cent.; what should he sell it at to gain 20 per cent.?

THE following is taken from "Twelve Years' Queen's Scholarship Questions, 1870-1880." London: Moffatt & Paige.

An engine can pump out 1,600 gallons per hour; after working for 19 hours it has pumped out $\frac{3}{5}$ of the contents of a reservoir; in what time will it pump out the remainder with the help of another engine, whose power is $\frac{1}{3}$ of its own? and how many gallons will each have pumped out?

Ans. 25 hours. 70,400 gals.

In a school which has on its books 250 children uniformly, 18 per cent. are absent during the former half of the year, $12\frac{1}{2}$ per cent. during the latter half; in the former there are three weeks of holidays, in the latter five; reckoning the full weekly attendances of a child at 10, find the average attendance for the year, and the average number of attendances made by each child, reckoning 52 weeks to the year.

Ans. 211 $\frac{1}{5}$ and 372 $\frac{3}{5}$.

A woman bought sugar, tea and coffee. She paid 2s. for the sugar and tea together; 1s. 9d. for the sugar and coffee together; and 2s. 3d. for the tea and coffee together. What was the cost of each?

Ans. Tea costs 1s. 3d., coffee 1s., and sugar 9d.

How many bricks, whose length, breadth, and depth are $8\frac{1}{2}$, $4\frac{1}{2}$, $2\frac{1}{2}$ inches respectively, can be stored in a space $17\frac{1}{2}$ yards long, 10 yards broad, $8\frac{1}{2}$ feet high? Ans. 248,832.

How many feet of boarding will be required for a roof 72 feet long and $19\frac{1}{4}$ feet deep, the boards being 9 feet long and $5\frac{1}{2}$ inches deep, if the longer edge of each is laid horizontally and overlaps the lower board by three quarters of an inch?

Ans. 3467 $\frac{1}{2}$ ft. of boarding, or 385 $\frac{1}{4}$ pieces 9 ft. long.

If £1,250,000 is raised by a tax of 10d. per lb. on tobacco, find the diminution in the consumption when the tax is raised to