establishing stations along Hudson's Strait, in order to collect trustworthy information in regard to the period of the year during which the Strait is navigable. Six stations were thus established, and the observers will probably remain there for two or three years. The *Neptune* made her first passage through the Strait in the latter part of August, and even then was delayed by the ice, four other vessels being observed in the same predicament. From observations made for many years at Fort Churchill, on the western shore of Hudson's Bay, navigation would seem to be possible only between the middle of June and the middle of November. The Bay itself never freezes so far out, but that clear water can be seen from the Fort. If this route should be found to be practicable it would form the most convenient outlet for the grain of the North-West, the distance to Liverpool being several hundred miles shorter than by way of Montreal

THE CLASS-ROOM.

DAVID BOYLE, Editor, Toronto.

ARITHMETICAL PROBLEMS.

BY LEO. B. DAVIDSON, Head Master, Goodwood Public School.

1. A tobacconist buys a quantity of cigars @ 30 cents per doz. He marks them at an advance of $\frac{2}{3}$ of cost; but in selling them he throws one in free for every 5 cigars solo, thus clearing on his whole stock $10. How many did he buy?

Ans. 100 doz.

2. Four boys, who go 2 ft., 2 ft. 8 in., 3 ft, and 2 ft. 6 in. respectively, at each step, begin walking together. Upon completing this journey they find that the first two have stepped together 308 times more than the other two. Find the length of the journey.

Ans. 1 mile.

3. A hotel-keeper buys wine @ $4 per gal., and forms from it a mixture of wine and water in the ratio of 7 : 4. Upon being asked what his outlay was, he replies that if he were to add 15 gals. more of water he would obtain a mixture consisting of equal quantities of water and wine. Find his outlay.

Ans. $140.

4. The head of a fish is 1½ inches long, the tail is as long as the head and half the body, and the body is as long as the head and tail together. Find the length of the fish.

Ans. 1 ft.

5. A father divides a certain amount of money among his 3 sons, giving the youngest as many twenty-five cent pieces as the second twenty-cent pieces, and the third, ten-cent pieces. After the division, the oldest has $300 less than the youngest. How much has the oldest less than the second son?

Ans. $200.

6. John owes James just $\frac{4}{5}$ as much as James owes Henry. They meet to settle their accounts, but James, being in a hurry, hands John a bank note of $1 and requests him to square up the debts. In doing so John finds after he has paid James' debt to Henry he is out of pocket 4 cents. How much did John owe James?

Ans. $5.20.

7. A railway company order that all trains in crossing bridges shall draw up to half their regular rate while the engine is on the bridge. On this company's line it takes a train 400 yards long, 45 seconds to cross a bridge 262 yards long. Find the regular rate of trains on this line.

Ans. 42 miles.

8. In the third hour of the afternoon a pupil asked his teacher what time it was. The teacher replied that 2 $\frac{1}{11}$ minutes ago the hands were at right angles to each other. What time was it?

Ans. 2.30 p.m.

9. A square cistern is full of water. A person observes that in draining off a ton of water, that in the cistern sinks 6 inches. Find the dimensions of the surface of the water, 1 cubic ft. water = 1,000 oz.

Ans. 8ft. x 8ft.

10. The height of a room is 10½ ft, and the width is $\frac{3}{5}$ of the length. It costs $25 20 to cover its walls with paper 22in. wide @ 20 cents per yard. Find the number of cubic yards of air the room contains.

Ans. 105 cubic yards.