

10. The "freights" on a certain railway line decrease by $\frac{1}{4}$ after the first 50 miles. If a barrel of coal oil weighing 450 lbs. be carried by this line 80 miles for \$1.25, how far should 4 barrels of sugar, each weighing 275 lbs., be carried for \$2.06 $\frac{1}{4}$, the "freight" on coal oil and sugar being as 5 to 4?

Ans. 56 miles.

11. Find the least number of ounces of gold that can be coined into an exact number of sovereigns, also the number of sovereigns so coined (1 oz. gold = \$18.949583).

Ans. 160 oz.; 623 sovs.

12. A merchant buys cotton at 8 $\frac{1}{4}$ c. per yd. Find selling price per yd. in order that the money he receives for 35 yds. may equal his gain on \$16.50 of outlay.

Ans. 10c.

13. A boy on being asked how many eggs he had to market and what price he received for them, replies:—"Had I received 18c. per doz. for them I would have obtained 40c. less than I did; but had I received 25c. per doz. I would have gained 2 $\frac{1}{2}$ times as much as I would have lost by the former price." How many eggs had he, and what did he receive per doz. for them?

Ans. 20 doz.; 20c.

14. A contractor engages 2 men, A and B, to do a piece of work for \$20. They agree to share the money in proportion to the amount of work done by each. Their ability to work is as 1 to 2, and the time each works is as 4 to 3. How much should the better man receive?

Ans. \$12.

15. I leave Glenallan at 5 o'clock a.m. for Drayton by a stage, travelling 6 miles per hour. After spending 1 hr. 40 min. in Drayton I set out on my return, walking 5 miles per hour, but after travelling half the distance I am compelled to diminish my rate by 2 miles per hour, I arrive home at 11 o'clock a.m. Find distance between Glenallan and Drayton.

Ans. 10 mls.

16. A offers B a farm at a certain price, C offers him one for $\frac{1}{3}$ more. As soon as A is aware of C's offer he raises the price of his farm by $\frac{1}{11}$, then C to compete with

A throws $\frac{1}{10}$ off his former asking price. B then accepts C's offer in preference to A's, thus saving \$50. Find A's and C's first prices.

Ans. \$3,000; \$3,500.

17. A father gives his son a certain sum of money, and tells him he must purchase a certain number of pencils. The boy goes to one shop where he is offered 25 for 10c., but he finds were he to purchase the required number of pencils he would be 4c. in debt, accordingly he goes to another shop where the price is 9c. for 30. Here he invests and saves 2c. of his money. How much money had the boy at first?

Ans. 20c.

18. A grocer who makes in the regular line of business a profit of $\frac{1}{11}$ on the cost of his goods, gives in "trade" the same price for butter as he asks in cash. A woman sells him a pail of butter for which she takes *trade*, but in weighing it he uses a "pound weight" $\frac{1}{4}$ oz. too heavy; in selling the same butter he uses a "pound weight" $\frac{1}{4}$ oz. too light and thus he finds he has made on the whole transaction a profit of \$1.10. What did he allow the woman in *trade* for the butter?

Ans. \$4.20.

19. \$2190.00. November 15th, 1883.

Six months after date I promise to pay to Bryce, McMurrich & Co., Toronto, the sum of \$2190, with interest at 6 $\frac{1}{2}$ per cent. per annum, value received.

WM. SCOTT.

How much must Wm. Scott pay to discharge the note when due?

Ans. \$2260.98.

20. \$370.85. November 15th, 1883.

Six months after date I promise to pay to Eby, Blain & Co., Toronto, or bearer, the sum of \$370.85, value received.

JOHN JONES.

Suppose Eby, Blain & Co. sell this note to John Smith three months before its *legal maturity* at 6 $\frac{1}{2}$ discount, what will they receive for it?

Ans. \$365.

21. A gentleman has a lawn 300 ft. long by 200 ft. broad which he wishes to raise 6 in higher by means of the earth to be dug out of a ditch that runs round it; when finished.