

5. A multiplier must be an abstract number, therefore this exercise has no meaning. For example, five pence taken five pence times is a meaningless expression.

6. Recurring decimals are indeterminate decimals in which the same figure, or series of figures, recur infinitely in the same order.

C. L. A.—Would you have the kindness to solve the following questions in arithmetic (Hamblin Smith's)?

1. A company took a risk at  $2\frac{1}{2}$  per cent, and re-insured 4-5 of it in another company at 3 per cent. The premium received exceeded that paid by \$10. What was the amount of the risk?

2. A person buys an article and sells it so as to gain 5 per cent. If he had bought it at 5 per cent less and sold it for 5 cents less he would have gained 10 per cent. Find the cost price.

3. A number of men, women and children are in the proportions 2, 3, 5; divide \$517.65 among them, so that the shares of a man, a woman and a child may be proportional to 3, 2, 1, there being 9 women.

1. Page 194, Exercise cvi. 7:

$$\frac{2\frac{1}{2}}{100} \text{ of risk} = \frac{3}{100} \text{ of } \frac{1}{5} \text{ of risk} + \$10.$$

$$\frac{5}{200} - \frac{3}{125} \text{ of risk} = \$10.$$

$$\frac{1}{40} - \frac{3}{125} \text{ of risk} = \$10.$$

$$\therefore \frac{25-24}{1000} \text{ of risk} = \$10.$$

$$i. e. \frac{1}{1000} \text{ of risk} = \$10.$$

$$\text{risk} = \$10 \times 1000 = 10000. \text{ Ans.}$$

2. Page 221, Exercise cxi. 14:

The number of men, women and children are 2, 3, 5, and there are 9 women.

$$\text{Then if } \frac{3}{10} \text{ of number} = 9.$$

$$\therefore \frac{1}{10} \text{ " " } = 3.$$

$$\text{And } \frac{1}{10} \text{ " " } = 30.$$

$$\text{Number of men} = \frac{2}{10} \text{ of whole} = \frac{2}{10} \text{ of } 30 = 6.$$

$$\text{" children} = \frac{5}{10} \text{ " " } = \frac{5}{10} \text{ of } 30 = 15.$$

Their shares are in the proportion of 3, 2, 1.

$$\therefore \text{the men's shares} = 6 \times 3 = 18.$$

$$\text{" women's " } = 9 \times 2 = 18.$$

$$\text{" children's " } = 15 \times 1 = 15.$$

51 shares.

If 51 shares = \$517.65

$$1 \text{ " } = \frac{517.65}{51} = \$10.15.$$

$$18 \text{ " } = \$10.15 \times 18 = \$182.70 = \text{men's shares.}$$

$$18 \text{ " } = \quad \quad \quad \$182.70 = \text{women's "}$$

$$15 \text{ " } = \$10.15 \times 15 = \$152.25 = \text{children's "}$$

Answer.

3. Page 217, Exercise III, 4:

Cost price — 1.

Selling price —  $1\frac{1}{3}$  or  $\frac{4}{3}$  of cost.

Supposed cost price —  $\frac{2}{3}$  or  $\frac{2}{3}$  " "

" selling " —  $1\frac{1}{3} - \$\frac{1}{3}$  or  $(\frac{4}{3} - \frac{1}{3})$  of cost.

But supposed selling price —  $1\frac{1}{3}$  of supposed cost.

That is  $(\frac{4}{3} - \frac{1}{3})$  of cost —  $\frac{3}{3}$  of  $\frac{2}{3}$  of cost.

$$\therefore \frac{2}{3} \text{ of cost} = \frac{1}{3} = \frac{1}{3} \text{ of cost.}$$

$$\therefore \frac{2}{3} \text{ " " } = \frac{1}{3} = \frac{1}{3}, \text{ that is } \frac{1}{3} \text{ of cost} = \frac{1}{2}.$$

$$\therefore \text{cost} = \frac{1}{2} = \$10$$

M. F. F.—Please solve the following in the columns of the REVIEW if you have space:

1. If the increase in the number of male and female prisoners is  $2\frac{1}{2}$  per cent, while the decrease in the number of males alone is  $7\frac{1}{2}$  per cent, and the increase in the number of females is  $10\frac{1}{4}$  per cent, compare the antecedent number of male and female prisoners. Hamblin Smith's Arithmetic.

1. Page 198, Example III, 3:

$$2\frac{1}{2} \text{ per cent } \frac{2\frac{1}{2}}{100} \text{ or } \frac{1}{40} \text{ per unit.}$$

$$7\frac{1}{2} \text{ " } \frac{7\frac{1}{2}}{100} \text{ or } \frac{3}{40} \text{ " "}$$

$$10\frac{1}{4} \text{ " } \frac{10\frac{1}{4}}{100} = \frac{41}{400} \text{ " "}$$

Net increase —  $\frac{1}{40}$  of males +  $\frac{1}{40}$  of females.

Decrease of males —  $\frac{3}{40}$  " "

Increase of females —  $\frac{41}{400}$  of females.

Increase of females, per unit, must equal decrease of males per unit, plus net increase.

That is,  $\frac{41}{400}$  of females —  $\frac{3}{40}$  of males +  $\frac{1}{40}$  of males +  $\frac{1}{40}$  of females.

$$\therefore (\frac{41}{400} - \frac{1}{40}) \text{ of females} = (\frac{3}{40} + \frac{1}{40}) \text{ of males.}$$

$$\frac{41-10}{400} \text{ of females} = \frac{4}{40} \text{ of males.}$$

$$\frac{31}{400} \text{ " " } = \frac{1}{10} \text{ " "}$$

$$\therefore \text{numbers are as 31 is to 40.}$$

Ans.

SCHOOL AND COLLEGE.

Inspector Mersereau will visit the schools in Beresford, and Bathurst, Gloucester County in February, and the schools in New Bandon, Caraquet, Shippegan and Inkerman, in March.

Mr. H. W. Robertson has taken charge of the Superior school, Havelock, Kings Co., N. B.

Archibald Kennedy, Esq., has been reappointed to the Charlottetown, P. E. I., school board by the local government.

The Nova Scotia government has increased the grant to the common schools for next term by \$15,000. This will make the government grant to each teacher somewhat higher than it ever was before. We hope the teachers will get the benefit of the increase and not the trustees as is too often the case.