$\frac{92}{225}$ lbs. tea $= 30\frac{2}{3}$ cents

$\therefore$ 1 lb. cost 75 cents

and 1 lb. coffee cost 32 cents.

5. 5 rounds from 50 guns equals 250 from one gun

250 rounds in 8 minutes equals $31\frac{1}{4}$ in one minute

300 men in 70 minutes equals $4\frac{2}{7}$ in one minute

If $31\frac{1}{4}$ shots kill $4\frac{2}{7}$ men

$31\frac{1}{4} \div 4\frac{2}{7} = \frac{175}{24}$ equals shots required to kill one man in one minute.

By the second condition

8 rounds in 10 minutes equals $\frac{4}{5}$ in one minute

800 men in 50 minutes equals 16 men in one minute

$\therefore \frac{175}{24}$ shots are required to kill one man in one minute

$\therefore \frac{175}{24} \times 16 = 116\frac{2}{3}$ equal shots required to kill 16 men,

If $\frac{4}{5}$ of a shot is fired from each of the second set of guns in one minute, it will require

$116\frac{2}{3} \div \frac{4}{5}$ to do the work by the second condition

$\therefore 145\frac{5}{6}$ or 146 equals the number of years.

6. Let x=A's debt to B

Find present worth of this due in 4 years

$x \times \frac{10}{100} \times 4 = \frac{2x}{5}$ = mercantile disc't

omitting the days of grace,

$\therefore \frac{3x}{5}$ = present worth

Find amount of above for 4 years at 10 per cent. compound interest.

$(1.1)^4 \times \frac{3x}{5}$ = amount.

$\therefore (1.1)^4 \times \frac{3x}{5} = x - 160$

$x = \$794.43.$

The remaining part is easy.

7. $90 \div 5 = 18$

$90 \div 6\frac{1}{4} = \frac{72}{5}$

$90 \div 7\frac{1}{2} = 12$

$90 \div 8\frac{1}{3} = \frac{54}{5}$

$90 \div 10\frac{1}{4} = \frac{360}{41}$

Find least common multiple of the above quotients and it will express the number of days travelled before they came together.

L. C. M. of numerators equals 1080

G. C. M. of denominators equals 1

$\therefore$ L. C. M. equals 1080

Since the first man travelled at the rate of 5 miles per day,

1080 x 5 = 5400 miles.

8, Find amount insured

$3\frac{3}{4} : 432 :: 100 : x$

$x = \$11,520$

$\therefore \$11,520 - \$40 = \$11,480$ equals goods and insurance on goods.

Then $\frac{\$11480}{\$\ 1.03\frac{3}{4}} = \$11,065.06$

equals value of goods

9. The formula given is deduced from first principles in Todhunter's Advanced Algebra.

Let x equal annual payment

Then $(1.06)^4 \times 4500 = x\left(\frac{(1.06)^4 - 1}{.06}\right) =$

$x\left(\frac{R^n - 1}{R - 1}\right)$

By solving the above equation

$x = \$1298.67 +$

10. All regular solids are to one another as the cubes of their like lined dimensions

$\therefore 105 : 22,680 :: 7^3 : x^3$

$105 = 22,680 \times 343$

$x = 42$ inches.