gravity of the bottle of oil? (K. & O'H.'s Arithmetic, page 3, Example VIII).

[This particular bottle is made of flint glass, though not so stated in the question.]

Specific gravity of flint glass = 3.33
" " olive oil = .915

$\frac{6.66}{3.33}$ oz. = 2 oz. = weight of water displaced.

$\frac{7.32}{.915}$ = 8 oz. = weight of water displaced.

$\frac{6.66+7.32}{2+8}$ = 1.398, specific gravity of the bottle of oil.

G. L.—(1) Kennedy & O'Hearn's High School Arithmetic, page 27, Example I, Exercise 1. A man had a lot of eggs. He sold $\frac{1}{3}$ of them at 10 cents a dozen, $\frac{1}{5}$ at 12 cents, and 12 dozen at 15 cents. He had 31 eggs left which were spoiled. What did he get for his eggs?

(2) What o'clock is it when the time from noon is $\frac{9}{11}$ of the time to midnight.

(3) A man walks a certain distance and then rides back in 3 hours, 25 minutes. He could ride both ways in $2\frac{1}{2}$ hours How long would it take him to walk both ways?

(1) $\frac{1}{3}+\frac{1}{5}=\frac{8}{15}$

$\frac{7}{15}=144+31=175.$

$\frac{1}{15}=25$

$\frac{15}{15}=375$

$\frac{1}{3}$ of 375 at 10 cts. a doz. = $\$1.04\frac{1}{6}$

$\frac{1}{5}$ of 375 at 12 cts. a doz. = .75

12 doz. at 15 cts. = 1.80

$\$3.59\frac{1}{6}$

The answer given in the book is wrong.

(2) $\frac{9}{11}$ of time to midnight = required time.

$(\frac{11}{11}+\frac{9}{11})$ " " = 12 hrs.

$\frac{20}{11}$ " " = 12 hrs.

$\frac{9}{11}$ " " = 5 hrs. 24 min.

or 17–24 o'clock.

(3) Walks there and rides back in $3\frac{5}{12}$ hrs.

Rides back in $1\frac{1}{4}$ hrs.

Therefore walks there in $2\frac{1}{6}$ hrs.

" walks there and rides back in $4\frac{1}{3}$ hrs.

The answer in the book is wrong.

B. E. D.—(1) How much faster does the top of a wagon wheel go than the bottom?

(2) A note on the habits, etc., of the beaver would be helpful. I have outline drawings of many animals, but not of it.

(1) Any point on the circumference of a wheel which rolls along a straight line describes a curve called a cycloid. The motion of this point varies from 0 to twice the rate of the axle. That is, if the wheel moves forward at the rate of 10 feet per second, the rate of motion of a given point will vary from 0 to 20; and if the diameter of the wheel is four feet, the length of the curve described by the given point for one turn of the wheel will be 16 feet.

(2) For information regarding the beaver, consult the Encyclopedia Britannica, or any good book on zoology. Some of the readers have interesting anecdotes about the beaver.

J. M.—(1) $\frac{4}{5}$ of A's stock was destroyed by fire, $\frac{7}{8}$ of the remainder was injured by water and smoke; he sold the uninjured goods at cost price, and the injured goods at a third of cost price. He realized $1155. What did he lose by the fire?

(2) The receipts of a railway company are apportioned in the following manner: 48 per cent for the working expenses, 10 per cent on one-fifth of the capital, and the remainder, $32000, for division among the holders of the rest of the stock, being a dividend at the rate of 4 per cent. Find the capital and receipts.

(3) For two papers and 30 cents a bonus is given of a knife valued at $1.75; for one paper, or subscription, and 10 cents a knife is given. What is the value of the knife?

(1) $\frac{4}{5}$ of goods destroyed by fire.

$\frac{7}{8}$ of $\frac{1}{5}=\frac{7}{40}$ sold at $\frac{1}{3}$ of cost.

$\frac{1}{8}$ of $\frac{1}{5}=\frac{1}{40}$ sold at cost.

He received $\frac{1}{40}+\frac{1}{3}$ of $\frac{7}{40}=\frac{10}{120}=\frac{1}{12}$

$\frac{1}{12}=\$1155$

Loss $\frac{11}{12}=\$12705.$

(2) $\frac{4}{100}$ of $\frac{4}{5}$ of the capital = $32000;

Therefore $\frac{4}{100}$ of the whole capital = $\$\frac{5\times 32000}{4}$

And the whole capital = $\$\frac{100\times 5\times 32000}{4\times 4}=1000000$

$\frac{10}{100}$ of $\frac{1}{5}$ of capital = $20000

Therefore $\frac{52}{100}$ of the receipts = $(32000 + 20000

And the receipts = $\$\frac{100\times 52000}{52}=\$100000$

(3) 2 subscriptions + 30 cts. = 2 papers + $1.75

1 " + 15 cts. = 1 " + $.87\frac{1}{2}$

1 " + 10 cts. = 1 " + $.82\frac{1}{2}$

SCHOOL AND COLLEGE.

The village of Bear River, situated on both banks of a river of the same name which empties into Annapolis Basin, and which forms the boundary line between Annapolis and Digby counties, deserves special mention for its interest in educational matters. A few years ago it erected a modern school building well adapted for school purposes, and now maintains a school of six departments. The public interest in educational matters is further shown by the employment of a very efficient staff of teachers of more than local reputation, consisting of Principal Lenfest Ruggles, and Misses Margaret J. Dimock, Aurelia B. Banks, Lulu M. Phinney, Laura J. Harris, and Gertrude L. Fleet. On the invitation of the public-spirited citizens of the village, the Summer School of Science will hold its session there this summer. Those who attend the meetings will have an opportunity of seeing one of the most romantic spots in Nova Scotia.