University of the State of New York
Examinations Department

75th examination

ARITHMETIC

Tuesday, Nov. 24, 1891—9:15 a. m. to 12:15 p. m., only

48 credits, necessary to pass, 36

Note.—Give each step of solution, indicating the operations by appropriate signs. Use cancellation when possible. Reduce fractions to lowest terms. Express final result in its simplest form and mark it Ans.

1. Give an example of each of the following: (a) prime factor; (b) composite number; (c) the metric system; (d) a promissory note; (e) personal property.

2. A business man has cash on hand January 1, $240, and on deposit in bank $528.80. During January he received $485 50, paid out $562.80 and deposited in bank $55. Find the amount of cash on hand and the amount on deposit January 31.

3. Find the least number of bushels of grain that can be exactly measured either by a three-quart, a peck, a twenty-quart or a bushel measure.

4. If a grocer should sell a tub of butter at 22 cents a pound, he would gain 168 cents; should he sell it at 17 cents a pound, he would lose 112 cents. Find the weight of the butter and the cost per pound.

5. What would be the cost of 50 boards, each 12 feet long, 8 inches wide and 1 1/2 inches thick, at 4 1/2 cents a foot, board measure?

6. If $130 be paid for a watch and chain, and the cost of the watch be 3/5 more than the cost of the chain, what would be the cost of each? (Solve by analysis and give the analysis in full.)

7. How many hecatoles of water will a cistern hold which is 5 meters long, 4 meters wide and 3 meters deep?

8. Three families consisting of 3, 4 and 5 persons respectively, camped out during the summer months, agreeing that the expenses should be divided in the ratio of the number of persons in each family. The expenses amounted to $606; what number of dollars should each family pay?

9. A merchant sold goods for $1125; half he sold at an advance of 25% on the cost; two-fifths at an advance of 12 1/2%, and the remainder at 1/2 the cost. What did he pay for the goods?

10. A note of $350, dated October 17, 1865, was paid April 11, 1868, with interest at 7%. Find the amount paid.

11. The proceeds of a 2-months' note, discounted by a bank at 6%, were $800. Find the face of the note.

12. How many dollars would a man gain in buying 240 shares of railroad stock at 3 3/8% discount and selling them at 1 1/2% premium?

13. A factory valued at $75,000 was insured for 3/4 of its value. If the premium was $625, what was the rate of insurance?

14. The assessed value of the property in a town is $3,265,000, and the tax to be raised on the property is $39,180. Find (a) the rate of taxation; (b) the amount of A's tax, whose property is assessed at $15,000, and who pays for 3 polls at $1.25 each.

15. Find the diagonal of a cubical block each of whose edges is 20 inches.