

University of the State of New York

1a

75TH EXAMINATION

ADVANCED ARITHMETIC

TUESDAY, Jan. 20, 1891—9:15 A. M. to 12:15 P. M., only

48 credits, necessary to pass, 36

1. Mention the uses of the denominator of a fraction. In the fraction $\frac{3}{4}$, what does $\frac{2}{3}$ show? 2
2. By the use of the numbers 352 and 132, explain the principles and method of finding their greatest common divisor by division. 4
3. Find the smallest number of dollars with which sheep can be bought at \$4 a head, or cows at \$21, or oxen at \$49, or horses at \$72. How many of each kind could be bought with this sum of money? 4
4. If $\frac{3}{5}$ of a bushel of barley be worth $\frac{3}{4}$ of a bushel of corn, and corn be worth $\frac{2}{3}$ a bushel, how many bushels of barley will \$15 buy? 3
5. Divide 3.6 by 0.00006 and explain the method of determining the place of the decimal point in the quotient. 3
6. Find the cost of 3920 brick at \$8.40 a thousand. 1
7. A merchant marked cloth so as to gain 60%, but owing to the use of an incorrect yard measure only 50% was gained. What was the length of the measure? 3
8. A merchant marks an article 40% above cost. He sells it on account at a discount of 10% on the marked price. He pays 20% of the debt for collecting it. What per cent does he gain or lose? 4
9. Find the exact interest of \$3748 from Jan. 1, 1889, to April 4, 1889, at 5%. 4
10. What sum of money amounts in 8 months to \$790, and in 19 months to \$845? What is the rate per cent? 3
11. Which is better for a merchant, to buy flour at \$4.80 on 3 months' credit, or at \$4.75 cash, money being worth 6%? 2
12. Find the area of the entire surface of a cubic block of marble whose contents are 4913 cubic feet. 3
13. A gentleman wishing to provide a permanent annual income of \$1260 for his invalid son invests in $4\frac{1}{2}\%$ U. S. bonds at $102\frac{7}{8}$, brokerage $\frac{1}{8}\%$. What was the amount invested? 4
14. A and B pay \$82 for the use of a car to ship stock. A puts in 2 horses and 6 oxen, and B 5 horses and 4 oxen. They agree that it is to cost as much to ship 2 horses as 3 oxen. How many dollars does each pay? 3
15. How many figures would be required to express the tenth power of (a) 225; (b) .225? 2
16. If a stack of hay 8 feet high weigh 8 cwt., what is the weight of a similar stack 24 feet high? 1
17. How much is gained if 5 hectograms of quinine are bought for \$25 and sold at 25 cents a gram? 2