

# University of the State of New York.

72D PRELIMINARY EXAMINATION.

## ARITHMETIC.

TUESDAY, March 4, 1890—Time, 9:30 A. M. to 12:30 P. M., only.

100 credits, necessary to pass, 75.

1. In a number what is the effect upon the value of a figure if it be removed one place to the right? What if removed one place to the left?..... 4
2. Explain the difference between a prime number and a composite number ..... 4
3. When the divisor is 10, 100 or 1000, give the shortest method of division. Give an example..... 4
4. If 59 books cost \$43.07 for how much must 23 of them be sold to gain \$1.84 on those sold?..... 4
5. If  $18\frac{3}{4}$  yards of ribbon at  $13\frac{1}{2}$  cents a yard are made into badges  $\frac{1}{8}$  of a yard long, and the badges are sold at  $12\frac{1}{2}$  cents each, how much is gained?..... 6
6. How much will 2 rods, 3 yds., 2 ft. of fence cost at \$12 a rod?..... 4
7. The circumference of one wheel of a bicycle is 55 inches, and of the other is 21 inches. The latter will revolve how many more times than the former in going 15 miles?..... 6
8. William Thomas buys of Jacob Smith, March 1, 1890, giving his note for \$50 and cash for the balance, 15 pairs boots at \$4.25; 37 pairs slippers at \$1.75; 2 doz. pairs slippers at \$9 a dozen. Make a bill of the above and receipt it for Smith ..... 10
9. Find the amount of a note for \$500 at 7% given Jan. 1, 1875, paid June 15, 1879..... 8
10. What sum at  $3\frac{1}{2}$  per cent for six years will produce \$28.87 $\frac{1}{2}$ , simple interest?..... 6
11. If \$175 be gained by selling a house for \$1425, how much per cent would be gained by selling it for \$1600? ..... 6
12. What annual income will be produced by \$13,000 invested in a  $3\frac{1}{2}$ % stock at 91? ..... 4
13. Find the date of maturity and face of a note at 3 mos. at 5%, dated March 2, 1890, which, discounted at bank, will give as avails \$8881.25 ..... 6
14. An agent received \$25.50 commission at  $2\frac{1}{2}$  per cent for selling 120 barrels of flour. At how much a barrel did he sell it and how much did he pay the owner?..... 6
15. A. and B. together, with a capital of \$2000 gain \$500. A. takes  $\frac{2}{5}$  of the gain. Find B.'s stock and share of gain..... 4
16. A tax of \$33,250 is to be raised on property valued at \$950,000. Find the rate and A.'s tax on \$15,370..... 6
17. Find in miles and hundredths the distance from one corner of a township 6 miles square to the diagonally opposite corner..... 8
18. Give the name of the unit of capacity and the name of the unit of surface in the metric system ..... 4