The University of the State of New York

232d High School Examination

# ARITHMETIC

Tuesday, January 20, 1925—9.15 a. m. to 12.15 p. m., only

**Write at top of first page of answer paper (*a*) name of school where you have studied, (*b*) grade of work completed in arithmetic.**
**The minimum requirement is the completion of the work of the seventh grade in arithmetic, as outlined in the 1910 syllabus for elementary schools.**

*Answer the first five questions and seven of the others. Reduce each result to its simplest form and mark each answer Ans.*
*Questions 1, 2, 3 and 4 are given as tests for accuracy; no credit, therefore, will be allowed unless the answer is correct.*

1 Mental test on separate sheet. [10]

2 Copy and add the following: [5]

213.37; 1650.25; .0875; 3276.5; 7984; 62843.08; 205.205; 37567.375

3 Divide 297.0875 by .625 [5]

4 Find (*a*) the sum of $2\frac{1}{2}$ and $3\frac{1}{4}$, (*b*) the difference between $4\frac{1}{4}$ and $2\frac{3}{4}$, (*c*) the product of the two results. [5]

5 Explain how the following problem should be worked: A surplus stock of overcoats is offered at a reduction of ....%; if the marked price of one overcoat is $...., what will the selling price be? [5]

6 Give the correct name for *each* of the following processes: [10]

*a* Finding the difference between two numbers is called . . .

*b* Changing the form of a fraction without changing its value is called . . .

*c* Finding what number multiplied by itself will produce a given number is called . . .

*d* Multiplying the length and breadth of a rectangle is called . . .

*e* Finding the least number that is exactly divisible by each of two or more numbers is called . . .

7 How many tons of hard coal may be stored in a bin 12 feet wide, 14 feet long and 4 feet high? [Allow 35 cubic feet for 1 ton of hard coal.] [10]



8 A contractor employed in the construction of a park is allowed $18\frac{1}{2}¢$ per square yard for seeding and grading and $12¢$ extra per square yard for removing the stone. What will he receive for the job if the park is 480 feet wide and 600 feet long? [10]

9 A man paid $8000 for a house. He rents it for $90 per month. Taxes average $160 per year and other expenses $120 per year. What per cent of his investment is his net income? [10]

10 A fruit dealer bought 500 bushels of apples at $1.50 per bushel. After repacking them, he sold them for $6 per barrel. Each barrel holds $2\frac{1}{2}$ bushels. How much was his profit? [10]

11 The Hollister (N. Y.) Free Library buys today of Gordon Bros., Buffalo, N. Y., the following goods:

2500 catalog cards at $4.50 per M
4500 date slips at $1.40 per M
500 book pockets at $7 per M
30 pamphlet binders at $1.80 per dozen
4 stamp pads at $.35
12 magazine binders at $5.20 per dozen

Make out the bill [8] and receipt it [2].

12 If a vertical rod 6 feet high casts a shadow 4 feet long, what is the height of a flagpole which at the same time casts a shadow 28 feet long? [10]

13 A merchant accepts a 60 day note for $350 bearing interest at 6%. Two weeks later he takes it to the bank to be discounted. What are the proceeds? [10]

14 A dealer bought 4 loads of hay at $22.75 a ton. The loads including the wagon weighed respectively 4156 pounds, 4720 pounds, 4384 pounds and 4460 pounds; the wagon weighed 1180 pounds. What was the cost of the hay? [10]

15 The pump of a city pumping station can pump 3,600,000 gallons of water in 24 hours. The pump is operated on an average 14 hours a day. The population of the city is 15,000. Determine the average number of gallons of water pumped every day for each resident of the city. [10]

[Fifteen minutes allowed for this test]

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*Answer all parts of this test. Write each answer in the space marked Ans. No credit will be allowed unless the answer is correct.*

*a* Jack deposited $60 in the bank at one time and $15 at another. He drew out $12 at one time and $28 at another. How much had he left in the bank? [1]

*Ans.*

*b* At $14 a ton what will 1000 pounds of coal cost? [1]

*Ans.*

*c* Subtract $\frac{5}{8}$ from $1\frac{1}{8}$. [1]

*Ans.*

*d* Kate buys 18 oranges at 50 cents a dozen; how much change should she receive from a $2 bill? [1]

*Ans.*

*e* Robert spent $\frac{3}{4}$ of his money and had 60 cents left; how much had he at first? [1]

*Ans.*

*f* A man bought a police dog for $50 and sold it for $75. What per cent profit did he make? [1]

*Ans.*

*g* Fred has 12 hens that laid 960 eggs in one season. What was the average number of eggs per hen? [1]

*Ans.*

*h* Of 44 pupils that took examinations 75% passed. How many failed? [1]

*Ans.*

*i* A man borrowed $500. How much interest did he pay on the loan in 4 years at 5%? [1]

*Ans.*

*j* Estimate the answer to the following problem without working it out: If the distance from Albany to Buffalo is 297 miles and the railroad fare is 3.6 cents per mile, find the cost of a ticket from Albany to Buffalo. [1]

*Ans.* About