ARITHMETIC

Tuesday, January 18, 1927 — 9.15 a. m. to 12.15 p. m., only

Instructions

Do not open this sheet until the signal is given.

Answer all questions in part I and five questions from part II.

Part I is to be done first and the maximum time to be allowed for this part is one and one half hours.

If you finish part I before the signal to stop is given you may begin part II on another paper. However, it is advisable to look your work over carefully before proceeding to part II, since *no credit will be given any answer in part I which is not correct and reduced to its simplest form.*

When the signal to stop is given at the close of the one and one half hour period, work on part I must cease. The answer papers to part I will then be collected and you should continue with the remainder of the examination.

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Write at top of first page of answer paper to part I (*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 first half of the eighth grade in arithmetic.

Part I

Answer all questions in this part. Each question has 2 credits assigned to it. All work must be shown. Each answer must be reduced to its simplest form.

1 Add
$$475$$
$$362$$
$$501$$
$$432$$
$$968$$
$$4874$$

2 Add 27.8; 8.16; 51.74; 202.14; 76; 721.03

3 Add $2\frac{1}{4}$; $6\frac{2}{5}$; $9\frac{1}{2}$; $5\frac{3}{4}$; $7\frac{3}{4}$

4 Subtract
$$60742$$
$$21907$$

5 $16\frac{1}{4} - 9\frac{2}{3}$

6 $3.104 - 2.5$

7 $496 - .565$

8 Multiply 68437 by 308

9 Multiply $8\frac{1}{3}$ by 4

10 Multiply $\frac{7}{8}$ by $\frac{2}{5}$

11 Multiply 432 by $7\frac{1}{4}$

12 Multiply 56.12 by 7.3

13 *a* Divide 15111 by 207
 b Check the answer.

14 *a* Divide 134.13 by 26.3
 b Check the answer.

15 Divide $7\frac{2}{3}$ by 3

16 Find the average of the following numbers: 16, 21, 23, 37, 43

17 Find the fourth term of the following proportion: $3:11 = 18: ?$

18 Write in figures: Seven hundred thousand sixty-four and thirty-six thousandths.

19 Find the square root of 489, carrying the work out to *one* decimal place.

20 Write the fractional equivalent of *each* of the following: $12\frac{1}{2}\%$, $33\frac{1}{3}\%$, $62\frac{1}{2}\%$, 60%

21 Find the area of a triangle, the base of which is 4 feet and the altitude 3 feet.

22 Find the cost of 1 pound 14 ounces of beefsteak at 48 cents a pound.

23 Find the number of cubic feet of space in a room 12 feet long, 9 feet wide and 10 feet high.

24 Thomas spelled correctly 94% of the 50 words in an examination; how many words did he spell correctly?

25 How many quarts of milk must a teacher order to supply $\frac{1}{2}$ pint of milk to each of his 32 pupils?

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Part II

Answer five questions from this part. Reduce each result to its simplest form and mark each answer Ans.

26 A certain car uses a gallon of gasoline every 17.5 miles; at 22 cents a gallon how much will the gasoline for a trip of 210 miles cost? [10]

27 A school building costing $160,000 is insured for 80% of its value for a term of three years at the three year rate of 68 cents per $100.

    a For what amount is the building insured? [4]

    b What is the amount of the premium paid every three years? [6]

28 A young man borrowed $500 to help pay for a college education. Four years later he paid it back with simple interest at 4%. How much did he pay? [10]

29 Find the cost of laying a concrete walk 120 feet long and 8 feet wide at 35 cents a square foot. [10]

30 Make out the bill for the following: [10]

    December 20, 1926, Carl Long, merchant, of Albany, N. Y., sold to Arthur Hall 2 strings of electric lights at $2.25 each; 20 feet of electric cord at 4 cents a foot; 3 sockets at 25 cents each; 1 searchlight at 75 cents; 6 bulbs at 35 cents each.

31 Mr Baker has an income of $6380 a year. He is required to pay an income tax of 1% on the amount of his income exceeding $1500. What is his income tax? [10]

32 A merchant bought 6 radio sets at $120 each, less a discount of $33\frac{1}{3}\%$; what was the amount of his bill? [10]

33 A man invests $1000 in 6% bonds at 125.

    a How many $100 bonds does he buy? [3]

    b What annual income will he receive from his investment? [3]

    c What is the rate of income on the investment? [4]