ARITHMETIC

Tuesday, June 19, 1928 — 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 operations except mental ones must be shown. Each answer must be reduced to its simplest form.

1 Add   923
            42
          1870
          5632
            89
           307

2 Add $22\frac{1}{2}$; $6\frac{7}{8}$; 45; $316\frac{1}{4}$; $10\frac{1}{16}$

3 Add 17.6; 126.3; 701.5; 6.03; 56

4 Subtract 860341
           557693
           _____

5 $29\frac{2}{3} - 8\frac{1}{4}$

6 49.41 — 4.89

7 Multiply 145.4 by 7.36

8 *a* Divide 357.12 by 49.6

   b Check your answer.

9 Divide 27 by $4\frac{1}{2}$

10 Write the fractional equivalent of *each* of the following: 20%, $66\frac{2}{3}\%$, $12\frac{1}{2}\%$, $87\frac{1}{2}\%$

11 Find the fourth term of the following proportion: $6:14 = 27:$?

12 Write in figures: Fifty-eight thousand twenty-nine and seven hundredths.

13 Find the average of the following arithmetic marks: 98, 83, 95, 78, 86

14 Find the square of *each* of the following: 12, 25, 30, 15

15 Find the circumference of a circle whose radius is 8 feet.

16 Find the cost of 2 pounds 6 ounces of steak at 48 cents a pound.

17 How many cubic yards of earth must be removed to make a cellar 30 feet long, 27 feet wide and 9 feet deep?

18 A man bought a car for $200 and sold it for $225; what was his gain per cent figured on the cost?

19 Find the interest on $425 for 3 months at 6%.

20 If the interest on an investment of $3550 for one year is $142, what is the rate?

21 Find the cost of 2 dozen napkins if 6 napkins cost $1.45.

22 A man found that his radio added an average of 76 cents a month to his electric bill; what was the yearly cost of the electricity used in running the radio?

23 If a bill for $225.50 is discounted at 4% for cash, what is the amount paid?

24 Find the area of a triangle that has a base of 5 feet and an altitude of 3 feet.

25 A milk dealer bought a 10-gallon can of milk and sold it in pint bottles; how many pints did he sell?

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Part II

Answer five questions from this part. No credit will be allowed unless all necessary operations are given. Reduce each result to its simplest form and mark each answer Ans.

26 An automobile that is bought for $980 depreciates 40% of the purchase price the first year and 25% of the purchase price the second year.

   a What is the value of the automobile at the end of the first year? [5]

   b What is the value of the automobile at the end of the second year? [5]

27 How many feet of fence will it take to inclose a rectangular lot 80 feet by 175 feet [5]? How much will it cost to build a fence around the lot at $1.19 a foot [5]?

28 A school playground is 70 yards long and 40 yards wide.

   a Find the area in square yards. [4]

   b Find the area in square feet. [2]

   c If 500 pupils play on this space, how many square feet are there for each pupil? [4]

29 A man bought 6 Gas and Light $1000 bonds at 98¼. Later he sold them at 104¼. How much did he gain on the transaction? [10]

30 A storekeeper pays $480 a year for rent, $2.50 a month for telephone, an average of $14.60 a month for heat and light, and $12 a week for 52 weeks for a clerk. Copy and complete the table below to show the cost a year of *each* of the following:

   a Rent .... ———— [1]

   b Telephone .... ———— [2]

   c Heat and light .... ———— [2]

   d Clerk hire .... ———— [2]

   e Total cost .... ———— [3]

31 A school district with an assessed valuation of $96,750 must raise $774. A man has a farm in this district assessed at $1900. Find his school tax. [10]

32 A store building is insured for $75,000 and the contents for $125,000. The annual rate on the building is 91 cents per $100 and on the contents $1.21 per $100. What is the cost per year for this insurance? [10]

33 A high school boy sells magazines at 25 cents a copy. During March he sold 40 copies and was allowed a commission of 5 cents a copy.

   a Find his total commission. [4]

   b Find the rate of commission on the selling price. [2]

   c What amount did he pay to his employer? [4]