ARITHMETIC

Wednesday, January 22, 1941 — 9.15 a. m. to 12.15 p. m., only

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Fill in the following lines:

Name of pupil...Name of school...

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. Merely write the answer to each question on the line at the right; no work need be shown.

If you finish part I before the signal to stop is given you may begin part II. 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 and this sheet of the question paper must be detached. The sheets will then be collected and you should continue with the remainder of the examination.

ARITHMETIC

Part I

Answer all questions in this part. Write the answer to each question on the dotted line at the right. Each question has 2 credits assigned to it; no partial credit will be allowed. Each answer must be reduced to its simplest form.

1 How much will your schoolbooks cost for the first year of high school, if you buy the following: English $1.50; Social Studies $1.68; General Science $1.72; elective subject $1.45?

2 Mary Jane's normal temperature is 98.6°. During a recent illness her temperature reached 102.2°. How many degrees above normal did her temperature rise?

3 Mary's mother bought two turkeys. One weighed $11\frac{1}{4}$ pounds and the other $12\frac{5}{8}$ pounds. How much did they weigh together?

4 Which of the following fractions is the largest: $\frac{3}{8}$, $\frac{7}{16}$, $\frac{10}{32}$?

5 If a plumber charges $1.20 an hour, how much will he receive for $7\frac{3}{4}$ hours of labor?

6 What is the total number of days in the months of September, October, November and December?

7 Mrs Brown uses $\frac{3}{4}$ of a yard of linen to make one towel. How much will she need to make 6 towels?

8 Sue was born on May 16, 1929. How old will she be on her birthday this year?

9 By paying $10 cash and the balance at $2 a week, how long would it take you to pay for a bicycle costing $28?

10 How many packages each containing $\frac{3}{4}$ of a pound can be made from 12 pounds of seed corn?

11 During the past season a football team played 8 games and won 6. What per cent of the games did the team win?

12 Is the annual payment on a life-insurance policy called beneficiary, premium or face?

13 The grocer you are working for tells you to reduce the price of an article 20%. What will be the new price if the article has been selling for 25¢?

14 When the denominator of a fraction is decreased, is the value of the fraction decreased or increased?

15 A man borrowed $500 to repair his house. He paid interest at 6% for 4 months. How much did he pay for the use of the money?

16 If x equals 5, what is the value of $x + 6$?

17 Pencils cost $4.32 per gross. At the same rate, what would the cost be per dozen?

18 If one angle of a triangle contains 50° and another 70°, how many degrees does the third angle contain?

19 A concrete floor 3 inches thick is to be laid in a cellar 30 feet by 24 feet. How many cubic feet of concrete are needed?

20 A boy has worked from 9.30 a. m. to 12.00 m. If he is paid at the rate of 20¢ an hour, how much has he earned?

21 Write the algebraic equation for the following statement: Three more than twice a certain number is 11.

22 How much would you receive for 1 gallon of orangeade if you sold it for 5 cents per $\frac{1}{2}$-pint glass?

23 What is $12\frac{1}{2}$% of 400?

24 The diagonal of a rectangle divides it into what two geometric figures?

25 A girl sold 12 baskets of berries at 2 baskets for 25 cents. How much did she receive for the berries?

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[2]

ARITHMETIC

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

Part II

Answer any 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 A boy bought 200 day-old chicks at 10 cents apiece. At the end of 14 weeks they averaged 3 pounds in weight and were sold for 25 cents a pound. During that time each chick ate 9 pounds of mash which cost 3 cents a pound and $4\frac{1}{2}$ pounds of hard grain which cost 2 cents a pound.

    a What was the original cost of the 200 chicks? [2]

    b How much did it cost the boy for the feed? [3]

    c What was the total amount received from the sale? [3]

    d How much actual profit did the boy make? [2]

27 Mr Cone drives a bakery truck. He receives a salary of $18 a week and a commission of 2% on all sales over $400. One week his sales amounted to $737.50.

    a What was Mr Cone's commission for the week? [5]

    b How much was he paid in all for that week? [5]

28 A house with its contents was valued at $6000 and was insured against loss by fire for $4500. The rate of the premium was 20¢ per $100 each year, based on the face of the policy. At the end of 10 years the house and contents were completely destroyed by fire.

    a How much did the owner receive from the fire-insurance company? [2]

    b How much had he paid into the company in premiums? [4]

    c How much was his real loss from the fire? [4]

29 The manager of a high school baseball team can buy a dozen balls from Mr White for $16, with discounts of 25% and 5%. He can buy the same kind of balls from Mr Black for $16, with discounts of 20% and 10%. Which merchant makes the better offer, and how much better? [10]

30 Mr Adams picked 150 bushels of apples from his orchard last fall. When he picked them, the market price was 75¢ per bushel. Instead of selling them at that time he decided to put them into cold storage at a cost of 25¢ per bushel. In the late winter he took them all out of cold storage and sold them for $1.35 per bushel.

    a How much did Mr Adams receive for his apples? [3]

    b How much were the cold-storage charges? [3]

    c Did he gain or lose by holding them through the winter, and how much? [4]

31 It is necessary to raise $55,648 by tax in a village with an assessed valuation of $3,478,000.

    a What will be the tax rate per $1000? [6]

    b How much village tax will be paid on a home assessed for $8500? [4]

32 *a* How great is the change in temperature from $-10°$ to $+14°$? [2]

    b If $3x = 18$, find the value of $2x$. [2]

    c Solve for *m* the following equation: $\frac{m}{5} = 2$ [2]

    d What is the sum of $6a + 2b + 3a + b$? [2]

    e Solve for *x* the following equation: $2x - 3 = x + 4$ [2]

<center>[3]</center>

33 Copy the letters preceding the statements below, and after *each* letter write the word or expression chosen from those in parenthesis that will make the statement correct. [10]

    a The instrument most commonly used in the measurement of angles is the (ruler, compass, protractor).

    b An equilateral triangle has (no, 2, 3) sides equal.

    c Two lines which meet at right angles are said to be (parallel, perpendicular, equal).

    d The area of a square is 64 square inches. One side is (4 inches, 6 inches, 8 inches).

    e A polygon of six sides is called a (hexagon, pentagon, octagon).

    f The perimeter is the (surface, distance across, distance around) a plane figure.

    g A circle contains (180 degrees, 360 degrees, 90 degrees).

    h An acute angle is (equal to, less than, greater than) an obtuse angle.

    i As the hands of a clock revolve, the end point of the hour hand describes a circle in (12 hours, 24 hours, 6 hours).

    j The area of a triangle is equal to ($\frac{1}{2} bh$, bh, $b + h$).

34 The accompanying sketch represents Mr Brown's house and lot. Grass seed costs 80 cents a pound and one pound will cover 100 square feet of ground. Making no allowance for paths or driveways, find the following:

    a How many square feet of ground will Mr Brown have to seed? [5]

    b How much will the grass seed cost? [5]

[4]