

The University of the State of New York

277TH HIGH SCHOOL EXAMINATION

ARITHMETIC

Wednesday, January 24, 1940 — 9:15 a. m. to 12:15 p. m., only

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 in the space 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.

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Part I

Answer all questions in this part. Each question has 2 credits assigned to it; no partial credit will be allowed. Each answer must be reduced to its simplest form.

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1 Divide 3.15 by .15 | 1.....Ans. |
| 2 What was the total of your mother's grocery bill if she gave the clerk a 10-dollar bill and received \$3.71 in change? | 2.....Ans. |
| 3 What per cent is represented by the fraction $\frac{1}{2}$? | 3.....Ans. |
| 4 How many feet are there in $\frac{1}{10}$ of a mile? | 4.....Ans. |
| 5 If the length of a rectangle is l and its width is w , complete the formula for its perimeter: $p = \dots$ | 5.....Ans. |
| 6 If a truck has a capacity of 10,000 pounds, how many tons will it hold? | 6.....Ans. |
| 7 Find the area of a floor 24 feet long and 20 feet wide. | 7.....Ans. |
| 8 Find the cost of 3 pounds 4 ounces of meat at 32¢ a pound. | 8.....Ans. |
| 9 At the rate of 60¢ per \$100, what is the premium on an insurance policy for \$3000? | 9.....Ans. |
| 10 A baseball team won 15 games out of 20; what per cent of the games did the team win? | 10.....Ans. |
| 11 At a sale the price of a 25-dollar bicycle is reduced 20%. What is the amount of the discount? | 11.....Ans. |
| 12 When $4x$ equals 12, what does x equal? | 12.....Ans. |
| 13 Find the volume of a bin 20 feet long, 6 feet wide and 3 feet deep. | 13.....Ans. |
| 14 Write the formula that would be used to find the area of a circle when the radius is given. | 14.....Ans. |
| 15 The distance between two villages in Belgium is 5 kilometers. Find the distance in miles between the two villages. [One kilometer is equal to .6 mile.] | 15.....Ans. |
| 16 The prices at Dr Morton's dental clinic are as follows: cleaning \$2, filling \$1, extraction \$2. Sue had her teeth cleaned, three teeth filled and one extracted. What was her bill? | 16.....Ans. |
| 17 At 30 miles per hour, how long does it take to travel one mile? | 17.....Ans. |
| 18 Jane has n pencils. Her brother has 5 times as many. Express the number of pencils he has in terms of n . | 18.....Ans. |
| 19 Which is the greater distance, the perimeter or the diagonal of a square? | 19.....Ans. |
| 20 A boy in his shopwork was given a board 16 feet long and was asked to cut it into pieces each $1\frac{1}{2}$ feet long. How many full pieces did he get? | 20.....Ans. |
| 21 Thirty inches of cloth will make one kitchen towel. How many yards of material are required to make 6 towels? | 21.....Ans. |
| 22 In three trials in a standing broad jump a boy jumped the following distances: 5 feet 11 inches, 6 feet, 6 feet 1 inch. Find the average distance that he jumped. | 22.....Ans. |
| 23 Which of the following is greatest: 575 million dollars, 40 billion dollars, \$73,000,000? | 23.....Ans. |
| 24 One summer day the sun rose at 5:00 a. m. and set at 7:12 p. m. How long did it shine? | 24.....Ans. |
| 25 If four oranges cost 10¢, what will one dozen cost? | 25.....Ans. |

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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 first half 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 Mr Walker drove a car for nearly 15 years without an accident. During that time he paid \$28 a year for automobile liability insurance. Near the end of the 15th year he injured a man seriously. The damages amounted to \$5000, which the insurance company paid. How much did Mr Walker save by having paid insurance for the 15 years? [10]

27 Mr Smith owns a small house assessed at \$1200 in a community that has a tax rate of \$10 per \$1000. He enlarges and improves his house in order to accommodate summer guests and his property is then assessed at \$2500. Find the increase in his taxes. [10]

28 The four members of the Jones family took a five-day trip to the World's Fair. Find the total cost of the trip if their expenses were as follows: [10]

Gasoline — 30 gallons at 18¢ per gallon

Oil — 4 quarts at 25¢ per quart

Hotel bill — \$8 for the family per night for 4 nights

Meals — \$5 for the family per day for 5 days

Admission to fairgrounds — 50¢ each per day. (All attended all four days.)

Miscellaneous — \$5

29 By borrowing \$152 in July to pay cash for his coal, Mr Smith was able to get a discount of \$25 on his winter's supply. He paid interest on the loan for 6 months at the rate of 6% per year. How much did he save by borrowing the money? [10]

30 A salesman for a hardware company receives an annual salary of \$1800 and a commission of 10% on all sales above \$5000. If he sells goods worth \$8650 in one year, how much does he earn in all? [10]

31 There are 96 pupils in the first three grades of a school who receive a midmorning lunch of one cracker and a cup of tomato juice every day. A quart of tomato juice will serve 12 pupils and a package of graham crackers contains 32 crackers.

a How many quarts of tomato juice and how many packages of crackers will be necessary for one day? [4]

b What will be the total cost of the lunch if tomato juice is 15¢ a quart and crackers cost 13¢ a package? [6]

32 At the end of a certain month, Mr Brown received a bill from a power company for the electrical energy used in his house. He had used 160 kw-hr (kilowatt-hours) of energy. The rates charged for supplying electrical energy to his type of home were as follows:

The first 10 kw-hr at 10¢ a kw-hr

The next 25 kw-hr at 5¢ a kw-hr

The next 50 kw-hr at 3¢ a kw-hr

Additional energy at 2¢ a kw-hr

What was the amount of his electric light bill for the month? [10]