

EXAMINATION QUESTIONS.

HAMILTON MODEL SCHOOL.

(Continued from page 531.)

Mental Arithmetic—Time, from one to two minutes each.

I.—If to my age you add three-fifths of it, and 15 years, the sum will be 39 years; find my age. Value 8.

II.—How many yards of carpet, 27 inches wide, will cover a floor 18 feet 9 inches long and 12 feet wide? Value 10.

III.—Three-fourths of 56 is seven-eighths of how many times 16? Value 10.

IV.—When \$400 is paid for 25 acres of land, what will 1 acre 1 rod cost? Value 8.

V.—Square 15, subtract 25, divide by 50, multiply by 225, extract the square root, add 34, extract the square root and multiply by 250. Value 8.

VI.—Find the value of four-fifths of $6\frac{1}{4}$, minus three-sevenths of 14, plus five-eighths of seven-tenths of 2, and two-sevenths, minus twenty-five forty seconds of twelve-fifths plus 8. Value 12.

VII.—A pile of wood 64 feet long, 6 feet wide and six feet high, sells for \$72, what is the price per cord? Value 10.

VIII.—How many boxes, each 9 inches long, 6 inches wide, and 3 inches deep, can be packed in a cubic yard?

Hygiene—Time, one hour.

I.—Describe and explain the functions of the organs of respiration in man. Value 5.

II.—In what respect does the air breathed out from the lungs differ from common atmospheric air? Value 5.

III.—Point out the different ways in which the air of the school-room is rendered impure, and the best plan of ventilating it. Value 5.

IV.—What is the difference between an artery and a vein? Between arterial and venous blood? Explain the functions of the heart, arteries, and veins, in the circulation of the blood. Value 10.

V.—Give reasons for thinking that exercise is necessary, and generally beneficial to the health. Value 5.

VI.—What is digestion? Explain briefly the changes that food undergoes in the process of digestion. Value 10.

VII.—Give brief rules for preserving the health of the teacher. Value 10.

Arithmetic for Fourth Class.

I. The sum of \$90 is paid for a piece of work. A works alone 4 days, then with B four days, and then with B and C 6 days; how should the money be divided?

II. Reduce $\frac{142857}{3.6428571}$ to 6 places of decimals.

III. I spend $.007 \times 40$ of my money and find that the remainder is \$90; what was the original sum?

IV. A can do as much work in 6 days as B can in 5 days; together they do a piece of work in 40 days. How long would it take each by himself?

V. Required the cost of papering the walls of a room 18 ft. 9 in. long by 14 ft. 6 in. wide, and 10 ft. high, at 20 cents per roll of 5 yards, allowing for two windows each 6 ft. by 4½ ft., a door 6½ ft. by 5 ft., and the other parts of the woodwork, which are equal to $\frac{1}{4}$ of the remaining surface. The paper is two feet wide.

VI. A man spends £50 in buying eggs at 11½d. per dozen, and sells them at 2d. each; how much does he gain?

VII. How many bricks 9 inches long, 4 inches wide, and 3 inches thick, will be required to build a wall 60 feet long, 8 feet high, and 2½ feet thick, allowing for two doors, each 6 feet by 4 feet, the mortar being equal to $\frac{1}{4}$ of the remaining wall?

VIII. $\frac{1}{8}$ of a number exceeds $\frac{2}{3}$ of $\frac{1}{2}$ of it by 26; find the number.

IX. Simplify $\left\{ \frac{24 - \frac{1}{2} \text{ of } 14}{\frac{1}{2} \text{ of } 34 + \frac{1}{4} \text{ of } 24} - \frac{1}{2} \right\} \div \frac{152}{267}$.

X. Multiply .28175 by .48 and divide the result by .00037.