accepted the latter offer; did he gain or lose, and how much, money being worth 7 per cent.?

924. What are the proceeds of a note for $368, at 90 days, discounted at *bank* at 6 per cent.?

925. If 16 horses consume 128 bushels of oats in 50 days, how many bushels will 5 horses consume in 90 days?

(Solve by Compound Proportion.)

926. Will the cube of $\frac{13}{14}$ be greater, or less, than that fraction, and why?

927. What is the square root of .00008836?

928. The pedestal of a certain monument is a cube, containing 373,248 solid inches; what is the length of one of its sides?

929. A. loaned $1,600, at 6 per cent., until it amounted to $2,000; what was the time?

Examination XXXVIII. Feb. 27, 1879.

930–31. Write and define any four (or more) of the following terms: Notation; Roman Notation; Arabic Notation; Decimal Scale or System; Duodecimals; Numerator; Quotient. (1 credit for 2, and 2 for 4 or more correct answers.)

932. Write 1879 according to the Roman Notation.

933. Add the numbers: 1, 12, 123, 1234, 12345, 123456, 1234567, 12345678, 123456789.

934. Bought wheat at 94 cts. per bushel, to the amount of $59.22, and sold for $70.56; what was the selling price per bushel?

935. When are two numbers prime to each other? Give two such numbers, each greater than fifty.

936–937. Express the following numbers and processes, by the proper arithmetical signs, and find the result: The fraction whose numerator is 19 and denominator 760, being increased by $\frac{3}{50}$, and this sum multiplied by the square of 2, becomes a fraction, whose square is $\frac{1}{16}$. (One credit for the expression, and one for the solution.)

938–40. Reduce ($37\frac{1}{2}$—$15\frac{3}{5}$) × ($\frac{2}{3}$ of 8) ÷ $2\frac{3}{4}$. (One credit for each of the operations indicated by the signs—, ×, ÷.)

941. If 5 be added to both terms of the fraction $\frac{3}{7}$, will its value be increased or decreased, and how much?

942. Express the value of 501-1000000, without writing the denominator.

943. On a railroad 57 mi. 133 rd. 11½ ft. long, there are 9 stations, including those at the two ends of the road. What is the average distance between the stations?

944. If 6 men can build 73 ft. of wall 4 ft. high in 5 days, how many feet can they build in 33 days?

(Solve by proportion.)

945. A merchant sold 86.55 tons of coal at $5.24 per ton; how much did he receive ($, cts., mills)?

946. In selling 86.55 tons of coal at $5.64 per ton, a merchant made $100.63; how much did the coal cost him, per ton?

947. A merchant sold 86.55 tons of coal at $5.24 a ton, gaining $100.63, what was his percentage of profit?

948. Find the difference of longitude between Constantinople, 28° 59′ E., and Boston, 71° 3′ 30″ W.

949. When it is 12 M. at Constantinople, 28° 59′ E., what time A. M. or P. M. is it at Boston, 71° 3′ 30″ W?

950. On what month and day will the following be due:

ALBANY, FEB. 13, 1879.

Sixty days after date, for value received, I promise to pay John Adams, or order, three hundred and seven $\frac{65}{100}$ dollars, at the Albany City National Bank.

$\$307\frac{65}{100}$. THOMAS JEFFERSON.

951. What would be the rate per cent. of interest or discount on a note given and payable in this State, no rate being expressed?

952. What would be the proceeds of a note at 60 days for $\$307\frac{65}{100}$, discounted at bank on the same day that it was made?

953. Find the present worth of $890, due in 1 yr. 6 mo., without interest, allowing 8 per cent. discount?

954. How would $7\times7\times7\times7\times7\times7\times7\times7\times7$ be written, according to the notation used in Involution?

955. Perform the operations indicated as follows:

$$\sqrt{558009} \div \sqrt[3]{\frac{27}{1728}} = ?$$

956. A certain room is 27 ft. long, 18 ft. wide, and 10 ft. high. How many pieces of paper $\frac{1}{2}$ yd. wide (9 yds. in a piece) will the side walls require, no allowance being made for doors, windows, etc.?

957. How many yards of carpeting, $\frac{3}{4}$ yd. wide, would be needed for a room 18 × 27 ft?