

286. If  $\frac{3}{18}$  of a ship cost £273 2s. 6d., what will  $\frac{5}{32}$  cost?
287. If \$200 gain \$12. in one year, what will \$400 gain in 9 months?
288. Find the square root of  $4\frac{21}{5}$ ?
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*Examination XIII. Nov. 11, 1870.*

289. Write in figures each of the following numbers, add them, and express in words (or numerate) their sum: fifty-six thousand, and fourteen thousandths; nineteen, and nineteen hundredths; fifty-seven, and forty-eight ten-thousandths; twenty-three thousand five, and four-tenths, and fourteenth millionths.

290. What is the difference between  $3\frac{1}{4}$  plus  $7\frac{1}{8}$  and 4 plus  $2\frac{1}{4}$ ?

291. In multiplying by more than one figure, where is the first figure in each partial product written, and why is it so written?

292. If the divisor is 19, the quotient 37, and the remainder 11, what is the dividend?

293. What is the quotient of 65 bu. 1 pk. 3 qt. divided by 12?

294. Which one of the fundamental operations (or ground rules) of arithmetic is employed in reduction ascending?

295. In exchanging gold dust for cotton, by what weight would each be weighed?

296. Which is the largest prime number below 100?

297. How many weeks in 8568456 minutes?
298. To what *term* in division does the *value* of a common fraction correspond?
299. What is the product of a fraction multiplied by its denominator? Give an example.
300. What is the rule for the multiplication of decimals?
301. How is a common fraction reduced to the decimal form? Give an example.
302. What is *ratio* and how may it be expressed? Illustrate by one or more examples.
303. If 27 T. 3 qr. 15 lb. of coal cost \$217.83, what will 119 T. 1 qr. 10 lb. cost?
304. Find the cost of the several articles, and the amount of the following bill:

ALBANY, October 1, 1870.

A. P. JEWETT to SAMUEL PALMER, Dr.

To 16750 feet of boards at \$12.50 per M.,	-
“ 1750 “ “ 24.00	“ -
“ 3500 “ “ 25.00	“ -

Received payment, \$

SAMUEL PALMER.

305. What is the length of the side of a cubical box which contains 389017 solid inches?
306. What is the present worth of the following note discounted at bank, and when will it become due?
- \$100.

UTICA, October 11, 1870.

Ninety days from date, for value received, I promise to pay to the order of John Smith, one hundred dollars, at the Albany City National Bank.

JOHN BROWN.

307. Involve  $\frac{2}{3}$  to the 7th power.
308. What is the square root of .0043046721?
309. Sold  $9\frac{1}{2}$  cwt. of sugar at  $\$8\frac{1}{4}$  per cwt., and thereby lost 12 per cent.: how much was the whole cost?
310. A person owned  $\frac{2}{3}$  of a mine and sold  $\frac{1}{3}$  of his interest for \$1,710: what was the value of the entire mine?
311. When it is 2 h.  $36'$  A. M. at the Cape of Good Hope, in longitude  $18^{\circ} 24'$  east, what is the time at Cape Horn, in latitude  $67^{\circ} 21'$  west?
312. What is the cost of 17 T. 18 cwt. 1 qr. 17 lb. of potash at \$53.80 per ton?

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*Examination XIV. Feb. 23, 1871.*

313. Express in words the number 42567000129301.
314. Multiply five hundred and forty thousand six hundred and nine by seventeen hundred and fifty.
315. Give the rule for reduction descending.
316. How many steps of two and one-half feet each, would a man take in walking a mile?
317. How is a whole number reduced to a fraction of the same value having a given denominator?
318. What is the value of  $\frac{2}{3}$  of  $\frac{3}{4}$  of  $\frac{1}{2}$  of  $\frac{1}{2}$  when reduced to a simple fraction of the lowest terms?
319. Give the rule for reducing several fractions to equivalent fractions having the least common denominator.