**797.** Bought two horses for $420, paying $48 more for one than the other. Find the price of each.

**798-799.** Boston is 71° 4′ 2″ w. longitude, and Washington 77° 1′ 30″. When it is noon at Boston, what is the time at Washington? (Two credits.)

**800.** If 2375 A. 2 R. 16 rd. of land be laid out in the form of a square, what will be the length of each side?

**801.** A. has $4,000, B. $2,700, C. $2,300 in a house renting for $720: what is each man's share of rent?

**802.** What is the present worth of $2,000 due in 3 yr. 6 mo., with interest at 7 per cent.?

## Examination XXXIV. Nov. 8, 1877.

**803.** In the decimal notation, why is the *nought* (0) used, which of itself has no value?

**804.** Why does (0) annexed to the decimal not change its value?

**805.** What is the differance between a common and decimal fraction?

**806.** A man gave 503 acres of land to his sons, giving them $83\frac{5}{6}$ acres each; how many sons had he?

**807.** What is the value of a fraction multiplied by its denominator?

**808.** If 14 acres of meadow yield $32\frac{2}{3}$ tons of hay, what will $5\frac{1}{2}$ acres produce at the same rate?

**809.** Change 4, 2.17, .136, and .0408 to equivalent decimals having a common denominator. (810.) Find their sum.

811–12. A farmer sold 300 bu, of oats at $0.45 a bu. and 16⅔ cords of wood at $3¾ a cord. He received in payment 125 lb. of sugar at $0.12½ a lb., 36 lb. of tea at $⅘ a lb. 6 bbl. of flour at $8.37½ a bbl., and the rest in cash. How much cash did he receive?

813. Divide 100 by .001.

814. What is the cost of 536720 bricks, at $8.75 per M.?

815. How many coats can be made from 32.4 yds. of cloth, allowing 2.7 yds. for each coat?

816. Find the prime factors of 2205.

817. Divide 375287 by 46.

818. Divide 375287 by 46, and write the several parts into which the dividend is separated in the process of division, each exactly containing the divisor.

819. Divide 375287 by 46, and show that the sum of the parts into which the dividend is separated in the process of division, each exactly containing the divisor, with the remainder, (if any) equals the dividend.

820. Divide 375287 by 46, and show that the sum of the several quotients obtained by dividing by the divisor each of the parts into which the dividend is divided in the process of division expresses the whole quotient.

821. Find the greatest divisor in 72, 126, 216.

822. What is Percentage?

823. How may the percentage of a number be found?

**824.** Mention three arithmetical operations in which percentage is used.

**825.** What is the interest on $4,010 for 1 yr. 1 mo. 13 da. at 7 per cent. simple interest?

**826.** What is the commission on the sale of a house for $9,346.80. at 6¼ per cent. ?

**827.** If $4.30 is paid for an insurance of $860, what is the rate ?

**828.** In a proportion, the two extremes and one mean being given, how may the other mean be found?

**829.** In what terms of a proportion may equal factors be cancelled?

**830.** If a man walk 192 mi. in 6 da., walking 8 h. a day, how far can he walk in 18 days, walking 6 h. a day? (Solve by compound proportion.)

**831.** If 251 A. 65 P. of land are laid out in a form of a square, what will be the length of each side?

**832.** How many sheets of tin each 14 × 22 in., will it take to cover a roof. 30 ft. × 18 ft. 4 in. ?

**833–837.** At $0.36 per sq. yd., for plastering, and $0.75 per roll for paper hanging, how much will it cost to plaster the walls and ceiling, and paper the walls of a room 18 × 16 × 9 ft., making allowance, in papering, for 2 windows, each 3 × 6 ft., and 3 doors, each 3 × 7 ft., the paper being 1 ft. 6 in. wide and 7 yd. in a roll? ( 2 credits for computing plastering surface correctly; 2 for papering; and one for cost.)

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*Examination XXXV.   Feb. 28, 1878:*

**838.** How many pounds of tea, at 72 cents a pound,