687. If it cost $84 to carpet a room 36 ft. long and 21 feet wide, what will it cost to carpet a room 33 ft. long and 27 ft. wide? (State and solve as a *compound proportion.*)

688. At what date will a note for $300, given Jan. 10, 1876, amount to $347.25, at 6 per cent. simple interest?

689. A note for $520, dated April 12, 1874, had the following endorsement: "Dec. 6, 1874, $120." What amount will be due May 1, 1876, at 9 per cent., simple interest?

690. What is the square root of $1040\frac{1}{16}$?

691. A flag pole 180 ft. high casts a shadow 135 ft. in length: what is the distance from the top of the pole to the end of its shadow?

692. A block of granite in the form of a cube contains 41063.625 cubic inches: what is the length of its edge?

Examination XXX. June 8, 1876.

693. The Erie Railway is 460 miles long, and cost $65,000 a mile: if $9,645,635 had been paid, how much would remain unpaid?

694. How many lb. of butter, at 33 cts a lb., can be bought for 55 lb. of tea, at 78 cts. a lb.?

695. What is the sum of twenty-nine and three tenths, four hundred and sixty-five, and two hundred and twenty-one thousandths? (Give the answer in *figures* and also in *words.*)

696. If I own $\frac{5}{7}$ of a farm, and sell $\frac{2}{3}$ of my share for $2,300, what is the value of the whole farm at the same rate?

697. Find the factors of .035, and multiply .007853 by these factors.

698. Reduce 15 cwt. 3 qr. 2½ lb. to the decimal of a ton.

699. Reduce 347-2560 to a decimal (of 9 places.)

700. The four walls of a room are each 16 ft. in length and 9 ft. in height, and the ceiling is 16 ft. square: how much will it cost to plaster it, at 14 cts. a sq. yd?

701. A merchant, failing in trade, pays 65 cts. on each dollar owed; he owes A $2,750, and B. $1,975; how much does he pay each?

702. Paid $41.62½ for a pile of wood, at the rate of $3.37½ a cord: how much was there in the pile?

703. A steamship, in crossing the Atlantic, has 3,500 miles to go: if she sails 211 mi. 4 fur. 32 rd. a day, what distance, after 15 da., has she still to sail?

704. How many sq. ft. are there in a board 17 ft. 6 in. in length, and 1 ft. 7 in. in width?

705. A pasture of a certain extent supplies 30 horses for 28 days: how long will the pasture supply 21 horses? (Solve by *proportion.*)

706. If 4 bbl. of flour cost $34⅜, how much can be bought for $182? (Solve by *analysis.*)

707. How much hay will 32 horses eat in 120 days, if 96 horses eat 3⅜ T. in 7½ weeks? (Solve by *compound proportion.*)

708. What is the simple interest of $2,594.20, for 10 mo. 9 da., at 7½ per cent.?

709. What is the compound interest of $1,250, for 2 yr. 3 mo. 24 da., compounded annually, at 6 per cent?

710. What is the bank discount on a note for $556.27, payable in 60 days, discounted at 6 per cent.?

711. Two merchants entered into partnership. One puts in $5,000 and the other $2,000. The partner that puts in the less sum is to receive $300 extra from the proceeds for his superior knowledge of the business. They gain $4,725: what is the share of each?

712. What is the 3d power of 8.628?

Examination XXXI. Nov. 9, 1876.

713. How many figures are in each of the periods into which numbers are divided for reading?

714. Name the first four periods of integers, and the first three orders (or places) of decimals.

715. Write in figures the number: One million one thousand one hundred and one.

716. Write in figures the numbers: Forty-seven, three hundred and fifty thousanths, forty-two millionths, two hundred and twenty-three billionths.

717. Multiply 732.53 by 37.846.

718. Divide 6053.74 by 4.379.

719. Bought a box of soap containing 70 lbs. Keeping it all summer, it dried away $\frac{1}{8}$, when I sold