667. What are the proceeds of the following note discounted at *bank*, and *when will it become due?*

$100. UTICA, October 11, 1875.

Ninety days from date, for value received, I promise to pay to the order of John Smith, One Hundred Dollars, at the Albany City Bank. JOHN JAY.

668. Involve $\frac{5}{6}$ to the 5th power

669. Sold $9\frac{1}{6}$ cwt. sugar at $\$8\frac{1}{4}$ per cwt., and thereby lost 12 per cent: what was the first cost?

670. A person owned $\frac{5}{8}$ of a mine, and sold $\frac{2}{3}$ of his interest for $1710: what was the value of the entire mine?

671. When it is 2 h. 36′ A. M. at the Cape of Good Hope, in longitude 18° 24′ east, what is the time at Cape Horn, in longitude 67° 21′ west?

672. What is the cost of 17 T. 18 cwt. 1 qr. 17 lb. of potash, at $53.80 per ton? (First reduce the lower denominations to the decimal of a ton.)

Examination XXIX. Feb. 24, 1876.

673. Two men are 450 miles apart; if they approach each other, one traveling 30 miles a day and the other 35 miles a day, how far apart will they be at the end of 6 days?

674. A. had $24, B. four times as much as A. less $16, and C. twice as much as A. and B. together plus $17: how much money had C.?

675. Give all the prime numbers below 20; and all the composite numbers between 20 and 40 inclusive.

676. What is the greatest common divisor of 144, 216, and 648?

677. Reduce to the simplest form, $(20\frac{5}{3}+\frac{1}{3}$ of $\frac{5}{6}) \div 6\frac{1}{2}-\frac{5}{8}\times\frac{2}{3}$.

678. The longitude of New York being 3° E. from the meridian of Washington, San Francisco 45° 25′ W., what will be the time of day at New York, when it is noon at San Francisco?

679. 2 pk. 3 qt. 1.2 pt. is what decimal part of 20 bu.?

680. What will it cost to dig a cellar 40 ft. long, 21 ft. 6 in. wide, and 4 ft. deep, at $1.75 a cubic yard?

681. From 16 ten thousandths take 27 millionths, and multiply the difference by 20.5.

682. Henry Smith bought of John Clarke, of Louisville, Ky., as follows: Dec. 10, 1875, 7 pair calf boots @ $5.75; 6 pair ladies' gaiters @ $3.25; 10 pair children's shoes @ $1.75; Jan. 5, 1876, 12 pair coarse boots @ $3.12½. Make out and receipt the bill, as clerk of John Clarke.

683. A clerk receiving a salary of $950, pays $275 a year for board, $180 for clothing, and $150 for other expenses: what per cent. of his salary is left?

684. Carriages costing $165 are sold at 18 per cent. profit: what is the gain on each carriage?

685. A school house is insured at $\frac{3}{5}$ per cent., and the premium was $93.60: for how much is the house insured?

686. If a man's pulse beat 300 times in 4 minutes, how many times will it beat in 8 hours? (Solve by *proportion*.)

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.*)