how many hours would it require if 4 more men were employed? Solved by Rule of Three (Proportion.)

1122. If 15 oxen and 20 horses eat 6 tons of hay in 8 weeks, how much will 12 oxen and 28 horses require in 21 weeks? Solved by Double Rule of Three (Compound Proportion.)

1123. Find the square root of 9754.4376.

1124. What must be the depth of a cubical cistern that will hold 3048.625 cubic feet of water?

1125. How many tiles 8 in. square will cover a floor 18 ft. long and 12 ft. wide?

Examination XLIV, March 3, 1881.

1126. Copy and add: 20570; 6206; 98.007; 63000; 426.000626; 4287; 63.961; 102030; 405.0607; 8090; 543.21; 1028848.414995.

1127. Express by Arabic Notation: $\overline{\text{MDXCV}}\text{DCCCLXIV}$.

1128. Express by Roman Notation: 84796.

1129. Numeration: 20567189.004321098.

1130. Divide 31984875832 by 96813.

1131. Find the value of

$$\overline{(28-7)\times 6}+\overline{(92+7)\div 9}-\overline{(86+10)\div 12}.$$

1132. Divide, using cancellation:

$$15\times 80\times 27\times 28 \text{ by } 7\times 20\times 8.$$

1133. Change $\frac{7}{21}$, $\frac{12}{87}$, $\frac{26}{169}$, and $\frac{1}{4}$ to similar fractions having their least common denominator, and (1134) reduce their sum to decimal form.

1135. Find the greatest common divisor of 7955, 8769, 6401.

1136. How much must be paid for making 52 rd. 14 ft. 8in. of fence, at $ .75 per foot?

1137. A traveller, on reaching a certain place, found that his watch, which kept correct time for the place he left, was 2 hr. 22 m, slower than the local time. Had he travelled eastward or westward, and how far, in circular measure, had he come?

1138. What per cent. (expressed in words), of 30000 bushels are 50 bushels?

1139. What number diminished by 36% of itself =336?

1140. What is the value of a lot 70 rd. long and 20 rd. wide, at $47.25 per acre?

1141. A cistern has 3 pipes: The first will fill it in 12 hours, the second in 16 and the third in 18 hours. If all run together, in what time will they fill it? (State this example as a proportion, if you can).

1142, 3. What is the difference between simple interest on $328 for 2 yr. 7 mo. at 7 % and compound interest on same amount for same time, at 6 %?

1144. Find the balance due (March 4) on a note dated January 1, 1879, for $580 at 5 %, on which a payment of $85 has been made every 6 months,—using the U. S. rule.

1145. How much should be discounted on a bill of $3725.87, due in 8 mo. 10 da., if paid immediately, money being worth 5 %?

1146. Bought bonds at 115 and sold at 110, losing $300. How many bonds of $1000 each did I buy?

1147. If A puts in $4000 capital for 8 months, B

$6000 for 7 mo. and C $3500 for 1 year, and they gain $2320, what is each partner's share of the gain?

1148. If 5 horses eat as much as 6 oxen, and 8 horses and 12 cattle eat 12 tons of hay in 40 days, how much hay will 7 horses and 15 oxen eat in 65 days?

1149. Find the value of $\sqrt[3]{.000238328}$.

1150. A steamer goes due north at the rate of 15 miles an hour, and another due west 18 miles an hour; how far apart will they be in 6 hours?

1151. Find the cost, at 30 cts. per sq. yd., of plastering the bottom and sides of a cubical cistern that will hold 300 barrels.

1152. What is the area of a circle 5 ft. in diameter?

1153. What is the difference between 5 sq. ft. and 5 ft. square? Illustrate by a diagram.

Special Examination, March 25, 1881.

(Supplementary to No. XLIV, protest having been made against the length of operations required, and especially to Question 1151. Schools so desiring were permitted to use this examination instead.)

1154. Write 1881 in characters of the Roman notation.

1155. Write 73069294780069 in words.

1156. Copy and add:

123	456	7890	23	465	2001	62	436	9	8877	603	9324	865
7053	482	9993	431	7987	462	23						

1157. Define multiplication, multiplicand, multiplier and product.