$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.

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## 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
9924
865
7053
482
9998
431
7987
462
23

1157. Define multiplication, multiplicand, multiplier and product.

1158.  330445150 ÷ 3145 = what number ?

1159.  How could you obtain the dividend, the divisor, quotient and remainder being given?

1160.  Find the least common multiple of 15, 18, 24, 35.

1161  Add $8\frac{4}{15}$, $\frac{7}{9}$, $3\frac{3}{4}$ and $4\frac{2}{3}$.

1162.  Bought 18 lb. of butter at 28½ ct. per lb., giving in return 22⅙ lb. of lard at 12 ct. per lb., and the rest in cash; how much was the cash?

1163.  Write with figures: Ninety-three and six hundred and nine ten-millionths.

1164.  On a railroad 149 mi. 234 rd. 4 yd. 2 ft. long, there are 18 stations, including one at each end of the road.   What is the average distance between the stations ?

1165.  How many boards 12 ft. long and 4 in. wide are require to floor a room which is 36 ft. by 27 ft. ?

1166.  Find the difference in circular measure between Calcutta, E. Lon. 88° 19′ 2″., and Philadelphia, W. Lon. 75° 8′ 54″.

1167.  Find the difference in time to correspond with your answer to Q. 1166.

1168.  Reduce 23444 sq. in. to a compound number.

1169.  What is the cost of 73590 lb. of coal, at $6.55 per ton (2000 lb.) ?

1170.  3 lb. 13 oz. are what per cent of 9 lb. ?

1171.  Define *per cent* and *percentage*, as these terms are used in Arithmetic.

1172.  Find the simple interest on $740 for 1 yr. 5 mo. 21 da., at 4½ per cent.

1173.  What principal will amount to $310.60 in 3 yr. 5 mo. 9 da., at 5 per cent simple interest ?

1174. What must be the face of a note for 90 days, at 6 per cent, on which I can obtain at bank $472.86 ?

1175. Two numbers are to each other as 7 to 11, and the greater is 329: what is the less ?

1176. Paid $2225 for 180 sheep and sold them for $2675: what should I gain on 1200 sheep at the same rate ? (Solve by Proportion.)

1177. If it cost $176 to hire 12 horses for 5 days, what will it cost to hire 10 horses for 18 days ? (Solve by Compound Proportion.)

1178. How many miles of fence would be required to enclose 640 acres laid out as an exact square ?

1179. What is the cube root of 104329 ?

1180. A person after spending $\frac{1}{5}$ and $\frac{1}{4}$ of his money and $20 more, had $80 left. What had he at first ?

1181. The width of a building being 38 ft., and the ridge of the roof 5 ft. higher than the eaves, how many feet of boards would be required to cover one of the gable ends ?

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## Examination XLV, June 16, 1881.

1182. Write in figures and numerate: Nine units of the 8th order, six of the 7th, three of the 5th, seven of the 4th, nine of the 1st.

1183. Copy and numerate: 9004082501.

1184. $((256 \times 25) - 625) \div 35 = ?$

1185. Find the prime factors of 2310.