

20, 1881, what amount will then be due, if no interest has been paid ?

1201. A man invests \$2000 in bank stock, and receives a semi-annual dividend of \$75: what is the rate per cent of income, per annum ?

1202. Give the U. S. rule for partial payments.

1203. What is the present worth of a note for \$1315.389, due in 2 y. 6 mo., at 7 per cent. ?

1204. If 6 men dig a cellar 22.5 ft. long, 17.3 ft. wide, and 10.25 ft. deep, in 2.5 days, of 12.3 ho., in how many days of 8.2 ho., can 9 men dig one 45 ft. long, 34.6 ft. wide, and 12.3 ft. deep ?

1205. If an army of 55225 be massed in a solid square, how many men will there be on a side ?

1206. A man bought a farm 198 rods long and 150 rods wide, and agreed to give \$32 an acre: how much did the farm cost him ?

1207. What is the length of one edge of a cistern of cubical form, containing 1331 solid feet ?

1208. How many barrels does such a cistern as the one described in the preceding question, contain ?

1209. Name and describe the standard unit of weight in the Metric system.

Examination XLVI. Nov. 17, 1881.

(10:00-15:00 A. M.)

1210. Name five fundamental rules or operations of arithmetic.

1211. What is a composite number ?

1212. Find the prime factors of 320.

1213. What factors of two or more numbers must their greatest common divisor contain?

1214. Find the greatest common divisor of 527 and 1207.

1215. What is the least common multiple of 24, 48, 60 and 100?

1216. What does the numerator of a fraction show?

1217. What does the denominator show?

1218. From $20\frac{1}{7}$ take $13\frac{1}{4}$.

1219. If 5 barrels of flour cost $\$48\frac{3}{4}$, how many barrels can be bought for $\$263\frac{1}{4}$? (Solve by analysis.)

1220. Divide .00144 by 1.2.

1221. How do you prove an example in division?

1222. London is $77^{\circ} 1'$ east of Washington; what time is it at Washington when it is 12 M. at London?

1223. What will 4 cwt. 3 qr. 15 lb. of sugar cost at $\$8.95$ a cwt. (= 100 lbs.)?

1224. A pile of wood is 6 ft. high, and 4 ft. wide: how long must it be to contain 10 cords?

1225. How many acres in a rectangular field that is 50 chains long and 30 chains wide?

(Nov. 18. 10:00-12:00 A. M.)

1226. What is 150 per cent. of $\$560.25$?

1227. 47 is 20 % of what number?

1228. A wagon was sold for $\$329$, which was $16\frac{2}{3}$ % more than it cost; what did it cost?

1229. If the interest of $\$36$ for 3 yr. 8 mo. 19 da, is $\$8.034$, what is the rate?

1230. What is the bank discount on \$120 for 120 days, at 7%? (Consider 360 da. = 1 yr.)

1231. What is the true discount on \$120 for 120 days, at 7%? (Consider 360 da. = 1 yr.)

1232. If $\frac{3}{8}$ of an acre of land is worth \$148, how much is $\frac{1}{16}$ of an acre worth? (Solve by proportion.)

1233. If 15 men in 9 days, by working 9 hours a day, build 36 rd. of stone-fence, how many rd. can 25 men build in 15 days, by working 8 hours a day? (Solve by compound proportion.)

1234. A and B enter into partnership: A furnished \$240 for 8 mo., and B \$559 for 5 mo. They lost \$118: how much did each man lose?

1235. In 25 kilogrammes how many pounds, Troy weight? (1 gramme = 15.432 gr.)

1236. What is the square root of 222784?

1237. Give the method of proof for square root, and prove answer to Q. 1236.

Examination XLVII. March 2, 1882.

1238. What is arithmetic?

1239. What is a concrete or denominate number?

1240. By what must I divide .7847 to get 1.9?

1241. What kind of a number must a multiplier be?

1242. What mixed number, multiplied by $25\frac{1}{2}$, will produce $54\frac{5}{8}$?

1243. What is a decimal fraction?