186TH HIGH SCHOOL EXAMINATION

ARITHMETIC

Thursday, June 15, 1905—9.15 a. m. to 12.15 p. m., only

Answer the first five questions and five of the others but no more. *If more than five of the others are answered only the first five answers will be considered. Give all operations (except mental ones) necessary to find results. Reduce each result to its simplest form and mark it* ***Ans. Each complete answer will receive 10 credits. Papers entitled to*** *75 or more credits will be accepted.*

1 Simplify $\frac{\frac{2}{3}+3\frac{1}{2}\div 4\frac{1}{2}}{4\frac{1}{2}\times\frac{2}{3}}$ and express the result both as a common fraction and as a decimal.

2 How many blocks 2 decimeters long and 12 centimeters wide will be required to pave a court 14 meters × 10.8 meters?

3 Find the cost, @ $8 per M, of 420 joists 18′ long 10″ wide and 4″ thick.

4 Find the simple interest of $653.25 at 3½% from September 25, 1902 till today.

5 A manufacturer sent his agent $3177.81 to invest in leather and to pay his commission of ½%; how much did the agent invest and how much was his commission?

6 A man buys an acre of land in the form of a rectangle with 66 feet fronting the street; how deep must the lot be?

7 Find the per cent of gain when 48 yards of cloth, costing 3s 6d a yard, are sold for £10 4s.

8 The contents of a bin are 560 cubic feet; find how many tons of coal the bin will hold. [1 bushel coal = 2150.4 cu. in. and weighs 80 lb.]

9 Find the prime factors of 1395 and 1736, after first finding by division their greatest common divisor.

10 Find the net cost of a piano marked $450 with trade discounts of 3, 8 and 10%.

11 A 90 day note for $560, bearing interest at 6%, is discounted at a bank at 6% 25 days after date; find the bank discount.

12 What would be the cost of an investment in U. S. 4's at 131¼, brokerage ⅛%, to secure an annual income of $720?

13 A rain barrel can be filled by a pipe in 3½ hours and can be emptied by another pipe in 5 hours; if the barrel is empty and both pipes are open, how long will it take to fill the barrel? [Assume that the flow in the pipes is constant.]

14 Find the difference between the exact interest and the interest by the 6% method of $730 for 90 days at 6%.

15 Define proper fraction, denominate number, root, metric system, cube.