1 Answer eight questions. 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.

2 State a principle by which, without reducing the fraction to a decimal, you can determine (a) whether it will give a finite or a circulating decimal, (b) whether it will give a pure or mixed circulating decimal, (c) the number of places in the finite part of a mixed circulating decimal. Illustrate each principle.

3 A owns \( \frac{3}{4} \) of a farm and B owns the remainder; A owns 18 acres 75\( \frac{3}{4} \) square rods more than B. Find the number of acres in each man's share. Write full analysis.

4 Find the cost, @ $12.50 per M, of 24 planks 18' long 18' wide at one end and 14' wide at the other, and 3\( \frac{1}{2} \) thick.

5 A man gained 40\% on \( \frac{3}{4} \) of an investment and lost 16\% on the remainder; his net gain was $655.50. Had he gained 40\% on \( \frac{3}{4} \) of the investment and lost 16\% on the remainder, what would have been his net gain?

6 If $240 at 6\% earns $22.56 in 1 yr. 6 mo. 24 da., what sum will $180 at 4\% earn in 1 yr. 3 mo. 6 da.? Solve by proportion.

7 A cylindrical tank 7' in diameter is filled to the depth of 6' 4' with oil; find the weight of the oil if 1 cubic foot of water weighs 62\( \frac{1}{4} \) pounds and the specific gravity of the oil is .97.

8 A, wishing to raise $1000, has his 90 day note for $950 discounted at a bank at 6\% and borrows the rest from B. Find the amount that he borrowed.

9 An agent received a commission of 3\% for selling goods and invested the proceeds of the sale after deducting his purchase commission of 2\%. His whole commission was $285; find the selling price of the goods.

10 A ladder 51' long stands close against the side of a building; how many feet must it be drawn out at the bottom that the top may be lowered 6'?

11 Find the present worth of a debt for $743.73 due in 5 months 18 days when money is worth 6\%.

12 Find in marks the face of a bill on Berlin, bought for $5000, exchange being quoted at 93\( \frac{1}{4} \).

13 The side of a square is 4'; find the side of a square whose area is 3 times as great.