1. A man wishes to build a barn 94 ft. long, 40 ft. wide, and 30 ft. high to the eaves. The gable is to be 15 ft. high. (*a*) How many feet of lumber will it take to board the sides and ends with $\frac{3}{4}$ in. boards, allowing for two double doors 15 ft. by 12 ft., and 2 single doors 8 ft. by 5 ft.? (*b*) How many feet of lumber will be required for the floor, it being laid with 2-in. plank? (*c*) How many feet of boards will be required for the roof? (*d*) How many bundles of shingles laid $4\frac{1}{2}$ in. to the weather will be required for the roof? (*e*) How many bundles of shingles laid 4 in. to the weather will be required for the gable ends? (*f*) How many feet of lumber required to make the doors, the boards being $1\frac{1}{2}$ in. thick? (*g*) Find the cost of the lumber required, the boards and plank being \$15 per M., and the shingles being \$4.25 per M.

2. The sales of a grain-dealer in one year amounted to \$100,000. $\frac{2}{5}$ of the receipts were for rye, on which he made $12\frac{1}{2}\%$ profit; $\frac{2}{5}$ were for wheat, on which he made 20% profit; and the remainder for other grains, on which 5% profit was made. What was the cost of all the grain he sold?

3. At the end of a year a firm found its profits to be \$27,000, which was $12\frac{1}{2}\%$ of their capital. A had put $33\frac{1}{3}\%$ of the capital into the business, B $37\frac{1}{2}\%$, and C the remainder. What was each man's share of the profits?

4. If \$360.75 is $16\frac{2}{3}\%$ of my money, and $6\frac{1}{4}\%$ of mine is equal to 10% of my sister's, how much more money have I than my sister?

5. How many bushels of shelled corn weigh as much as 100 bu. of corn on the cob? How many bushels of corn meal?

6. By a scale of $\frac{1}{8}$ of an inch to a rod, draw the plan of a lot of land described as follows: From a point *A* to a point *B* east is 10 rods; from *B* to a point *C* south is 4 rods; from *C* to a point *D* east is 8 rods; from *D* to a point *E* south is 12 rods; from *E* to a point *F* west is 18 rods; join *AF*. (*a*) Find the number of yards of fence that will be required to inclose the lot. (*b*) Find the square contents in acres, etc. (*c*) Join *BF* in the plan, and find the area of *ABF*. (*d*) Join *DF* in the plan, and find the area of *DEF*. (*e*) Find the area of *BCDF*.