apiece, $\frac{1}{5}$ of which equaled his gain ; how much would he have gained per cent., if he had sold them, at 12 cents apiece ?

13. A merchant sold sugar, for $80 a hogshead, and thereby cleared $\frac{1}{10}$ of his money ; if he had sold it, at $92 a hogshead, what would he have gained per cent. ?

14. A quantity of cloth was bought for $36, and sold for $43 ; what was the gain per cent. ?

15. A horse was bought for $100, and sold for $95, what was the loss per cent. ?

16. A man sold a horse for $120, and thereby cleared $\frac{1}{5}$ of its cost ; how much would he have lost per cent., if he had sold him for $80 ?

17. What per cent. of $\frac{1}{3}$ is $\frac{1}{6}$? Of $\frac{2}{3}$ is $\frac{1}{6}$? Of $\frac{2}{5}$ is $\frac{1}{20}$? Of $\frac{3}{4}$ is $\frac{2}{3}$? Of $\frac{7}{8}$ is $\frac{2}{3}$? Of $2\frac{1}{2}$ is $\frac{2}{3}$? Of $3\frac{1}{5}$ is $2\frac{1}{10}$?

18. $\frac{2}{3}$ of $6 is what per cent. of $\frac{4}{5}$ of $100 ?

19. $\frac{5}{7}$ of $28 is $\frac{2}{3}$ of what per cent. of $\frac{5}{6}$ of $300 ?

20. Walter sold a horse for 120, and thereby cleared $\frac{1}{6}$ of its cost ; what would he have lost per cent. by selling it for $80 ?

Lesson XIV.

1. A man bought a cow for $20 ; for what must he sell her, to gain 5 per cent. on the cost ?

SOLUTION.—If he gains 5 per cent. he gains $\frac{5}{100}$, or $\frac{1}{20}$ of the cost. $\frac{1}{20}$ of $20 is $1, the gain. Therefore, to gain 5 per cent. he must sell the cow for $20+$1, or $21.

2. A man bought a yoke of oxen for $100 ; how must he sell them, to gain 6 per cent. on the cost ?

3. A man bought a barrel of rum for $10 ; for what must he sell it, to gain 10 per cent. on the cost ?

4. A gallon of wine was bought for 20 dimes ; how must it be sold a pint, to gain 20 per cent. on the cost ?