



MULTIPLICATION

LESSON LXXII.

1. What will 9 sheep cost at 6 dollars a head?
2. What will 10 quarts of milk cost at 6 cents a quart?
3. What will be the cost of 4 wagons at 30 dollars apiece?
4. Since 12 inches make one foot, how many inches are there in 3 feet?
5. At 11 cents a quart, what will 9 quarts of berries cost?
6. If a laborer can work but 13 days per month, how many days can he work in 3 months?
7. In one week there are 7 days. How many days are there in 12 weeks?
8. If one hogshead of sugar is worth 40 dollars, what are 2 hogsheads of sugar worth?
9. If one apple-tree yields 14 bushels of apples, how many bushels will 2 such trees yield?
10. If a man plants 20 apple-trees in one row, how many trees will he plant in 5 such rows?
11. When loaf-sugar is worth 15 cents a pound, how much will 4 pounds cost?
12. What will 9 dozen of peaches cost at 10 cents per dozen?

13. What will be the cost of 3 copy-books at 20 cents each?

14. What will be the cost of 4 yards of muslin at 30 cents a yard?

15. If you give 25 cents to each of 3 beggars, how much will you give them?

DEFINITIONS.

The process of taking one number as many times as there are units in another, is called *Multiplication*.

The number to be taken or multiplied is called the *Multiplicand*.

The number which shows how many times the multiplicand is taken is called the *Multiplier*.

The result obtained by multiplying is called the *Product*.

The *Sign of Multiplication* is an oblique cross: \times . It is read *times* or *multiplied by*.

1. Multiply 421 by 3.

	PROCESS.	EXPLANATION.—For convenience the multiplier is written under the multiplicand. Beginning at the right hand each figure of the multiplicand is multiplied by the multiplier.
Multiplicand	421	
Multiplier	<u>3</u>	
Product	1263	

Thus 3 times 1 unit are 3 units. The 3 is written in units' place in the product. 3 times 2 tens are 6 tens. The 6 is written in tens' place in the product.

3 times 4 hundreds are 12 hundreds, which equal 1 thousand and 2 hundreds. The 1 thousand is written in thousands' place and the the 2 hundreds in hundreds' place in the product.

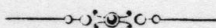
Hence the product is 1263.

SLATE EXERCISES.

Copy and multiply the following:

(2.)	(3.)	(4.)	(5.)
6102	5233	5212	7342
<u>4</u>	<u>3</u>	<u>3</u>	<u>2</u>

(6.)	(7.)	(8.)	(9.)
3413	5234	3123	4123
<u>2</u>	<u>2</u>	<u>3</u>	<u>3</u>



LESSON LXXIII.

1. How many are 8 times 196?

PROCESS.

$$\begin{array}{r} 196 \\ 8 \\ \hline 1568 \end{array}$$

EXPLANATION.—For convenience the multiplier is written under the multiplicand. Beginning at the right each figure of the multiplicand is multiplied by the multiplier.

Thus, 8 times 6 units are 48 units. 48 units are equal to 4 tens and 8 units. The 8 is written in units' place in the product, and the 4 is reserved to add with the tens. 8 times 9 tens are 72 tens, plus the 4 tens reserved, are 76 tens. 76 tens are equal to 7 hundreds and 6 tens. The 6 is written in tens' place in the product, and the 7 is reserved to add with the hundreds.

8 times 1 hundred are 8 hundreds, plus 7 hundreds reserved, are 15 hundreds. 15 hundreds are equal to 1 thousand and 5 hundreds, which are written in hundreds' and thousands' places in the product.

Hence the product is 1568.

The accuracy of the work may be tested by reviewing it.

Copy and multiply :

(2.)	(3.)	(4.)	(5.)
1345	3824	6325	7863
<u> 6</u>	<u> 7</u>	<u> 4</u>	<u> 5</u>

(6.)	(7.)	(8.)	(9.)
7581	6274	6235	7341
<u> 3</u>	<u> 9</u>	<u> 8</u>	<u> 2</u>

10. If a ship sails 368 miles in one week, how many miles will she sail in 7 weeks?

11. There are 5280 feet in a mile. How many feet are there in 9 miles?

12. What will 6 yoke of cattle cost at 184 dollars a yoke?

13. If 1 horse is valued at 275 dollars, what is the value of 6 such horses?

14. If a ship sails 895 miles in 1 week, how far will she sail in 9 weeks?

15. What is the product of 457 multiplied by 7?

16. What is the product of 784 multiplied by 4?

17. If a clerk receives a salary of 972 dollars a year, how much will he receive in 5 years?

18. Since there are 365 days in 1 year, how many days are there in 9 years?

19. Multiply 3452 by 3. Multiply 1472 by 5.

20. Multiply 6841 by 6. Multiply 5261 by 7.

21. Multiply 7186 by 3. Multiply 9167 by 8.

22. Multiply 2041 by 8. Multiply 9380 by 9.

23. Multiply 4926 by 6. Multiply 4829 by 7.
 24. Multiply 3624 by 4. Multiply 1684 by 2.
 25. If it takes 5428 shingles for the roof of a house,
 how many shingles will it take for 5 such houses?

Copy and multiply :

(26.)	(27.)	(28.)	(29.)	(30.)
4753	6529	8881	9573	2469
<u> 5</u>	<u> 3</u>	<u> 6</u>	<u> 4</u>	<u> 8</u>

(31.)	(32.)	(33.)	(34.)	(35.)
6382	4629	3265	8475	8463
<u> 6</u>	<u> 7</u>	<u> 9</u>	<u> 8</u>	<u> 4</u>



LESSON LXXIV.

1. Multiply 425 by 37.

FIRST PROCESS.

$$\begin{array}{r}
 425 \\
 37 \\
 \hline
 7 \times 425 = 2975 \\
 30 \times 425 = 12750 \\
 37 \times 425 = 15725
 \end{array}$$

EXPLANATION.—The numbers are written as before. Since in multiplying we multiply by the parts of a number, to multiply by 37 we multiply by 30 and by 7, and add the results.

7 times 425 are 2975, the first partial product; 30 or 3 tens times 425 are 1275 tens or 12750, the second partial product. The sum of these partial products will be the entire product.

Hence the entire product is 15725.

SECOND PROCESS.

$$\begin{array}{r}
 425 \\
 37 \\
 \hline
 7 \times 425 = 2975 \\
 3 \times 425 = 1275 \\
 \hline
 15725
 \end{array}$$

EXPLANATION.—In this process the cipher at the right of the partial product is omitted and the significant figures placed in their proper places. Thus, in multiplying by 3 *tens*, the product is 1275 *tens* or 12 thousands 7 hundreds and 5 tens, which are written in their proper places in the partial product.

In multiplying by *tens* the lowest denomination of the product is *tens*, in multiplying by *hundreds* it is *hundreds*, by *thousands* it is *thousands*. Hence,

The first figure of each product should be placed under the figure by which we multiply.

SLATE EXERCISES.

	(2.)	(3.)	(4.)	(5.)	(6.)
Multiply	3468	4126	7824	6846	7125
By	<u>12</u>	<u>31</u>	<u>23</u>	<u>43</u>	<u>37</u>
	(7.)	(8.)	(9.)	(10.)	(11.)
Multiply	4685	7235	4986	5843	1987
By	<u>76</u>	<u>83</u>	<u>49</u>	<u>121</u>	<u>316</u>
	(12.)	(13.)	(14.)	(15.)	(16.)
Multiply	5964	6842	2723	8962	8462
By	<u>73</u>	<u>39</u>	<u>64</u>	<u>135</u>	<u>216</u>
	(17.)	(18.)	(19.)	(20.)	(21.)
Multiply	8964	3562	7825	3265	9268
By	<u>62</u>	<u>36</u>	<u>47</u>	<u>234</u>	<u>327</u>