



LESSON LXXV.

1. How many barrels of flour at 8 dollars a barrel, can be bought for 72 dollars?

2. If there are 3 feet in a yard, how many yards are there in 27 feet?

3. At 4 dollars a cord, how many cords of wood can be bought for 40 dollars?

4. If a man can walk 4 miles per hour, how long will it take him to walk 36 miles?

5. If 5 paces are a rod of distance, what is the length in rods of a piece of land which is 30 paces long?

6. If paper is put in packages containing 6 sheets each, how many packages can be made out of 48 sheets?

7. If 5 bushels of wheat make a barrel of flour, how many barrels of flour can be made from 40 bushels of wheat?

8. At 6 dollars a ton, how many tons of hay can be bought for 54 dollars?

9. If a man can build 7 rods of fence in one day, in how many days can he build 35 rods?

10. If a teacher earns 9 dollars a week, in how many weeks can she earn 90 dollars?

DEFINITIONS.

The process of finding how many times one number is contained in another is called *Division*.

The number to be divided is called the *Dividend*.

The number by which the dividend is to be divided is called the *Divisor*.

The result in division is called the *Quotient*.

The part of the dividend remaining when the division is not exact is called the *Remainder*.

The *Sign of Division* is \div , read *divided by*.

Thus, $24 \div 6$ is read, 24 divided by 6.

1. How many times is 3 contained in 369?

FIRST PROCESS.	EXPLANATION.
Divisor. Dividend. Quotient. $\begin{array}{r} 3 \overline{) 369} \quad (100 \\ \underline{300} \quad 20 \\ \quad 69 \quad \quad 3 \\ \underline{60} \quad 123 \\ \quad \quad 9 \\ \quad \quad \underline{9} \end{array}$	— For convenience the divisor is written at the left of the dividend, and the quotient at the right. Beginning at the left we divide. 3 is contained in 369 1 hundred times and a remainder. The 100 is placed in the quotient, and the divisor is multiplied by it. The product 300 is written under the dividend. Subtracting there is a remainder of 69.
3 is contained in 69, 20 times and a remainder. The 20 is placed in the quotient and the divisor multiplied by it. The product 60 is written under the partial dividend. Subtracting the remainder is 9.	
3 is contained in 9, 3 times and no remainder. The 3 is placed in the quotient, and the divisor multiplied by it. The product 9 is written under the partial dividend. Subtracting, there is no remainder.	
The true quotient is therefore the sum of the partial quotients, which is 123, and 3 is contained in 369, 123 times.	

SECOND PROCESS.

	hund.	tens.	units.
3) 369	(1	2	3
<u>3</u>			
6			
<u>6</u>			
9			
<u>9</u>			

EXPLANATION.—The second process is the same as the first, except that the ciphers are omitted from the right of the quotient figures and partial products, the value of figures being indicated by their position. Thus, the figures of the quotient are 1 hundred, 2 tens, and 3 units, which are written in succession so that each figure represents its proper value.

The products 3 hundreds, 6 tens and 9 units are placed under hundreds, tens, and units in the partial dividends.

SLATE EXERCISES.

Copy and divide the following:

(2.)	(3.)	(4.)	(5.)
4) 488 (5) 550 (3) 699 (2) 264 (



LESSON LXXVI.

1. How many times is 6 contained in 1398?

PROCESS.

6) 1398	(233
<u>12</u>	
19	
<u>18</u>	
18	
<u>18</u>	

EXPLANATION.—For convenience the divisor is written at the left of the dividend and the quotient at the right. Beginning at the left of the dividend we divide.

6 is not contained in 1 thousand any thousand times, therefore the quotient can not be higher than hundreds. Hence we must find how many times 6 is contained in all the hundreds of the dividend.

1 thousand is equal to 10 hundreds. 10 hundreds plus 3 hundreds equal 13 hundreds. 6 is contained in

13 hundreds 2 hundred times and a remainder. The 2 is written in hundreds' place in the quotient and the divisor multiplied by it. Subtracting this product from the partial dividend, 13 hundreds, there is a remainder of 1 hundred.

1 hundred remainder is equal to 10 tens. 10 tens plus 9 tens equal 19 tens. 6 is contained in 19 tens 3 tens times and a remainder. The 3 is written in tens' place in the quotient, and the divisor multiplied by it. Subtracting this product from the partial dividend, 19 tens, there is a remainder of 1 ten in the quotient.

The 1 ten remainder equals 10 units. 10 units plus 8 units equal 18 units. 6 is contained in 18 units 3 times and no remainder. The 3 is written in units' place in the quotient, and the divisor multiplied by it.

Hence the quotient is 233.

SLATE EXERCISES.

Copy and divide the following:

- | | | | |
|-----------|-----------|-----------|-----------|
| (2.) | (3.) | (4.) | (5.) |
| 5) 32860(| 8) 72880(| 6) 63546(| 3) 56841(|
| (6.) | (7.) | (8.) | (9.) |
| 4) 87564(| 7) 67326(| 9) 27819(| 7) 58562(|
| (10.) | (11.) | (12.) | (13.) |
| 6) 38412(| 5) 42865(| 8) 32848(| 4) 48264(|
| (14.) | (15.) | (16.) | (17.) |
| 7) 54285(| 9) 32616(| 8) 42856(| 9) 49842(|

The solution of examples having a small divisor, may be shortened by performing the multiplications and subtractions without writing the results. This process is called *Short Division*.

The solution of Example 1, by short division, is:

PROCESS.

$$\begin{array}{r} 6 \overline{) 1398} \\ \underline{233} \end{array}$$

EXPLANATION.—6 is contained in 13 hundreds 2 hundred times and 1 hundred remainder. The 2 is written in the quotient under units of the same order in the dividend.

1 hundred remainder and 9 tens make 19 tens. 6 is contained in 19 tens 3 tens times and 1 ten remainder. The 3 is written in the quotient under tens in the dividend.

1 ten remainder and 8 units make 18 units. 6 is contained in 18 units 3 times. The 3 is written in the quotient under units. Hence the quotient is 233.

Solve by short division:

18. $4761 \div 3.$

19. $5848 \div 4.$

20. $3725 \div 5.$

21. $4865 \div 7.$

22. $2844 \div 6.$

23. $7254 \div 9.$

24. $9328 \div 8.$

25. $6832 \div 7.$

26. $9745 \div 5.$

27. $6835 \div 5.$

28. $7281 \div 9.$

29. $3234 \div 6.$

30. $5948 \div 4.$

31. $4275 \div 3.$

32. $3577 \div 7.$

33. $3486 \div 6.$

34. $9648 \div 8.$

35. $8936 \div 9.$

36. $8532 \div 6.$

37. $6435 \div 5.$

38. $3280 \div 8.$

39. $3689 \div 7.$

40. $8262 \div 9.$

41. $5984 \div 4.$

42. $6975 \div 5.$

43. $4284 \div 7.$

44. $6720 \div 8.$

45. $9873 \div 9.$

46. $3248 \div 8.$

47. $5274 \div 6.$

48. $8245 \div 5.$

49. $3824 \div 4.$

50. $4920 \div 8.$

51. $3915 \div 9.$

52. $4823 \div 7.$

53. $4625 \div 5.$

54. $9441 \div 3.$

55. $8928 \div 6.$

LESSON LXXVII.

1. Divide 4825 by 26.

PROCESS.	Divisor.	Dividend.	Quotient.
	26) 4825	(185
	26		
	222		
	208		
	145		
	130		
Remainder	15		

EXPLANATION.—26 is not contained in 4 thousands any thousands times, hence, the thousands are united with the hundreds, making 48 hundreds. 26 is contained in 48 hundreds 1 hundred times and a remainder. The 1 is written in hundreds' place in the quotient and the divisor multiplied by it, giving a product of 26 hundreds. Subtracting this product from the partial dividend 48, there is a remainder of 22 hundreds.

22 hundreds united with 2 tens make 222 tens. 26 is contained in 222 tens 8 tens times and a remainder. The 8 is written in tens' place in the quotient and the divisor multiplied by it, giving a product of 208 tens. Subtracting this product from the partial dividend there is a remainder of 14 tens.

14 tens united with 5 units make 145 units. 26 is contained in 145 units 5 times and a remainder. The 5 is written in units' place in the quotient and the divisor multiplied by it, giving a product of 130 units. Subtracting, there is a remainder of 15.

Therefore the quotient is 185, and the remainder, 15.

Divide:

2. 864 by 12.
3. 845 by 13.
4. 906 by 21.
5. 1188 by 22.
6. 2016 by 32.
7. 1486 by 33.
8. 2016 by 30.
9. 2397 by 51.

Divide:

10. 3358 by 73.
11. 4788 by 84.
12. 3696 by 66.
13. 1904 by 28.
14. 3277 by 29.
15. 5706 by 46.
16. 45658 by 37.
17. 55484 by 26.