



LESSON XIX.

1. Make two marks on your slates. Erase one. How many marks are there left?
2. 1 mark from 2 marks leaves how many marks?
3. If there were 3 pencils on the table, and Helen took 1 away, how many were left?
4. How many are 3 pencils less 1 pencil?
5. If 4 apples were put in a box, and afterward 1 was taken out, how many remained?
6. How many are 4 apples less 1 apple?
7. Hold up 5 fingers. Put one down. How many fingers are you holding up?
8. How many are 5 fingers less 1 finger?
9. Make 6 dots on your slates. Erase one. How many are there left?
10. How many are 6 dots less 1 dot?
11. How many steamships are represented in the picture?
12. If 1 sails away, how many are left?
13. How many vessels are 7 vessels less 1 vessel?
14. How many boats do you see in the picture?

15. How many are being rowed away? How many are left?
16. How many boats are 8 boats less 1 boat?
17. If there are 9 trees, and a man cuts 1 down, how many will be left?
18. How many trees are 9 trees less 1 tree?



LESSON XX.

1. A rose-bush had 3 roses on it, but 1 dropped off. How many roses were there left on the bush?
2. How many are 3 less 2?
3. Make 4 marks. Erase 2.
How many are left?
4. How many marks are 4 marks less 2 marks?
5. Helen had 5 pennies, and gave 2 to a beggar. How many had she left?
6. How many are 5 less 2?



The sign — takes the place of the word *less*. It is read *minus*. Thus, 4 less 2 equals 2, is written $4 - 2 = 2$, and is read 4 minus 2 equals 2?

7. If you take 2 apples from a group of 6 apples, how many apples will be left?
8. How many apples are 6 apples less 2 apples?
Express 6 less 2 equals 4. $6 - 2 = 4$.

10. William had 7 pennies, and gave 2 for a pencil. How many had he left? $7 - 2 = ?$

11. How many slates are 8 slates less 2 slates?

12. How many are 9 less 2? How many are 10 less 2? How many are 11 less 2?

13. How many are 12 dollars less 2 dollars?

Taking one number from another is called *Subtraction*.

14. Form the subtraction tables of ones and twos.

TABLES.

$1 - 1 = 0$	$6 - 1 = 5$	$2 - 2 = 0$	$7 - 2 = 5$
$2 - 1 = 1$	$7 - 1 = 6$	$3 - 2 = 1$	$8 - 2 = 6$
$3 - 1 = 2$	$8 - 1 = 7$	$4 - 2 = 2$	$9 - 2 = 7$
$4 - 1 = 3$	$9 - 1 = 8$	$5 - 2 = 3$	$10 - 2 = 8$
$5 - 1 = 4$	$10 - 1 = 9$	$6 - 2 = 4$	$11 - 2 = 9$



LESSON XXI.

1. Helen had 3 cents, and gave them for a pencil. How many cents had she left? $3 - 3 = ?$

2. A man had 4 horses, and sold 3 of them. How many had he left? $4 - 3 = ?$

3. How many cows are 5 cows less 3 cows?

4. A boy had 6 marbles, and gave away 3. How many marbles had he left? $6 - 3 = ?$

5. How many dollars are 7 dollars less 3 dollars?
How many are 8 less 3?
6. A woman had 9 dollars, and gave 3 for a hat.
How many dollars had she left?
7. How many horses are 10 horses less 3 horses?
How many are 11 minus 3?
8. If there were 12 pigeons on a limb, and 3
flew away, how many remained? $12 - 3 = ?$
9. If James had 4 apples, and gave away 4, how
many had he left? $4 - 4 = ?$
10. If Emily had 5 cents, and gave 4 cents for
paper, how many cents had she left?
11. How many are 6 less 4? 7 minus 4 are how
many?
12. How many are 8 less 4? 9 minus 4 are how
many?
13. How many are 10 books less 4 books? 11 hats
less 4 hats?
14. How many are 12 minus 4? 13 less 4 are how
many?
15. Form the subtraction tables of threes and fours.

TABLES.

$3 - 3 = 0$	$8 - 3 = 5$	$4 - 4 = 0$	$9 - 4 = 5$
$4 - 3 = 1$	$9 - 3 = 6$	$5 - 4 = 1$	$10 - 4 = 6$
$5 - 3 = 2$	$10 - 3 = 7$	$6 - 4 = 2$	$11 - 4 = 7$
$6 - 3 = 3$	$11 - 3 = 8$	$7 - 4 = 3$	$12 - 4 = 8$
$7 - 3 = 4$	$12 - 3 = 9$	$8 - 4 = 4$	$13 - 4 = 9$

LESSON XXII.

1. There were 7 cents in a box, and William took out 3. How many cents were left in the box?

2. A merchant bought 12 lamps, and sold 4 of them. How many had he left?

3. John has 10 marbles, and Henry has 3. How many more has John than Henry?

4. A woman who had 9 yards of calico, used 4 yards. How many yards had she left?

5. $8 - 2 = ?$ $9 - 2 = ?$ $10 - 3 = ?$

6. $6 - 3 = ?$ $13 - 4 = ?$ $11 - 4 = ?$

7. A man bought 9 barrels of flour, and sold all but 3 of them. How many barrels did he sell?
 $9 - 3 = ?$

8. A man bought a boat for 11 dollars, and sold it for 4 dollars. How much did he lose?

9. 3 from 12 leave how many? $12 - 3 = ?$

10. William had 10 cents. He spent 1 cent for a pencil and 3 cents for paper. How many cent had he left?

11. Carrie had 12 apples, but she gave 2 to her sister and 1 to her brother. How many apples had she left?

12. How many are 6 less 2? 9 less 1 are how many?

13. There were 11 passengers in a stage-coach, of whom 4 got out. How many remained?

14. $8 - 3 = ?$ $7 - 1 = ?$ $12 - 4 = ?$

15. How many are 8 less 2? $8 - 2 = ?$

SLATE EXERCISES.

Copy, subtract, and add the following:

4	8	7	9	8	6	5	7
2	4	2	3	2	1	3	2
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>



LESSON XXIII.

1. A woman had 5 quarts of berries, and sold 5 quarts. How many had she left? $5 - 5 = ?$
2. If 6 gallons of water run into a cistern in one hour, and 5 run out in the same time, how many gallons remain? $6 - 5 = ?$
3. 5 books from 7 books leave how many books?
4. A merchant bought 8 penknives, and sold 5 of them. How many had he left?
5. Henry had 9 fish-hooks, and gave 5 of them to Martin. How many had he left?
6. How many are 10 less 5? 11 less 5?
7. 5 pencils from 12 pencils leave how many pencils?
8. 5 from 13 leave how many? 5 from 14?
9. In a class there are 7 girls and 6 boys. How many more girls are there than boys?
10. From a bunch of 8 keys, 6 keys were lost. How many keys were not lost?
11. A boy having 9 pennies, lost 6. How many had he left? $9 - 6 = ?$

12. 6 from 10 leave how many? 6 from 11 = ?
13. How many are 12 less 6? 13 minus 6 are how many?
14. A farmer who had 14 bushels of potatoes, sold 6 bushels. How many bushels had he left?
15. How many are 15 boys less 6 boys? $15 - 6 = ?$
16. Form the subtraction tables of fives and sixes.

TABLES.

$5 - 5 = 0$	$10 - 5 = 5$	$6 - 6 = 0$	$11 - 6 = 5$
$6 - 5 = 1$	$11 - 5 = 6$	$7 - 6 = 1$	$12 - 6 = 6$
$7 - 5 = 2$	$12 - 5 = 7$	$8 - 6 = 2$	$13 - 6 = 7$
$8 - 5 = 3$	$13 - 5 = 8$	$9 - 6 = 3$	$14 - 6 = 8$
$9 - 5 = 4$	$14 - 5 = 9$	$10 - 6 = 4$	$15 - 6 = 9$

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LESSON XXIV.

1. A man who earned 7 dollars a week, saved only 2 dollars. How much did he spend? $7 - 2 = ?$
2. A woman bought 9 yards of calico, and used 5 yards of it. How many yards had she left?
3. Henry had 11 rabbits, and James had 8. How many had Henry more than James?
4. Rush is 14 miles from Geneseo, and Avon is 9 miles from Geneseo, on the same road. How much farther from Geneseo is Rush than Avon?

5. James had 8 marbles, but lost 2 of them. How many marbles had he left? $8 - 2 = ?$

6. A boy caught 9 pigeons, and gave 4 of them to a poor woman. How many had he left? $9 - 4 = ?$

7. If 6 gallons of water run into a cistern in one minute, and 5 gallons run out, how much is the cistern filled?



8. Ned had 6 chickens, but the cat killed 3 of them. How many were left?

9. $7 - 1 = ?$ $9 - 6 = ?$ $8 - 5 = ?$

10. $13 - 5 = ?$ $15 - 4 = ?$ $13 - 2 = ?$

11. How many sheep are 9 sheep less 3 sheep?

12. A carriage-maker had 15 carriages, and sold 9 of them. How many had he left?

13. A clothier sold 8 coats, 6 of which were for boys and the rest for men. How many of the coats were for men?

14. Martha is 12 years old, and Mary is 4. How many years older than Mary is Martha.

15. $6 + 8 - 1 = ?$ $4 + 5 - 3 = ?$ $3 + 7 - 2 = ?$

16. $7 + 1 - 3 = ?$ $5 + 3 - 6 = ?$ $7 + 4 - 1 = ?$

17. How many are 7 and 3 less 2?

18. In a basket containing 12 oranges, 4 were decayed. How many were sound?

19. Amasa picked 16 quarts of berries, and sold 6 quarts of them. How many quarts had he unsold?

SLATE EXERCISES.

Copy, subtract, and add the following:

9	7	8	9	7	8	4	7
<u>4</u>	<u>2</u>	<u>5</u>	<u>6</u>	<u>6</u>	<u>3</u>	<u>1</u>	<u>2</u>



LESSON XXV.

1. Richard saw 8 ducks in a pond, 7 of which swam away. How many remained?

2. In a class of 9 children 7 are boys. How many are girls? $9 - 7 = ?$

3. A cooper made 10 firkins, and sold 7 of them. How many had he left? $10 - 7 = ?$

4. William is 11 years old, and Thomas is 7. How much older is William than Thomas?

5. A house has 12 windows, 7 of which are in the first story, and the rest in the second story. How many are there in the second story?

6. How many are 13 less 7? 14 less 7?

7. A farmer who had 15 turkeys, sold 7 of them. How many had he left? $15 - 7 = ?$

8. There were 16 bottles on a shelf, 7 of which were filled with pickles, and the remainder with fruit. How many were filled with fruit?

9. There were 9 passenger-cars on a railroad track, 8 of which were filled with passengers. How many were empty?

10. How many are 10 less 8? 11 less 8? 12 less 8?

11. A merchant had 13 barrels of salt, and sold 8 of them. How many barrels remained unsold?

12. $14 - 8 = ?$ $15 - 8 = ?$ $16 - 8 = ?$

13. How many are 17 trunks less 8 trunks?

14. Form the subtraction tables of sevens and eights.

TABLES.

$7 - 7 = 0$	$12 - 7 = 5$	$8 - 8 = 0$	$13 - 8 = 5$
$8 - 7 = 1$	$13 - 7 = 6$	$9 - 8 = 1$	$14 - 8 = 6$
$9 - 7 = 2$	$14 - 7 = 7$	$10 - 8 = 2$	$15 - 8 = 7$
$10 - 7 = 3$	$15 - 7 = 8$	$11 - 8 = 3$	$16 - 8 = 8$
$11 - 7 = 4$	$16 - 7 = 9$	$12 - 8 = 4$	$17 - 8 = 9$

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LESSON XXVI.

1. There were 12 musk-rats in traps, but 2 escaped. How many were there left in the traps?

2. Helen had 6 violets, and Jennie had 16. How many more had Jennie than Helen?

3. What number added to 6 makes 16?

4. $5 + 8 + 2 - 5 = ?$ $7 + 3 + 4 - 7 = ?$

5. Henry gave his sister 12 figs. She gave 3 to Sarah and 5 to Flora. How many had she left?

$12 - (3 + 5) = ?$

12 are how many more than 5?

7. 16 are how many more than 9?
8. What number added to 8 makes 16?
9. What number added to 5 makes 13?
10. Edgar having 14 plums, exchanged 5 of them for an orange. How many had he left?
11. How many are 14 less 8? 13 less 7?
12. Henry caught 7 pigeons at one time, 3 at another, and then sold 4 of them. How many had he left? $7 + 3 - 4 = ?$
13. Frank earned 13 dollars and George earned 6. How many dollars more did Frank earn than George?
14. There were 11 trunks on a baggage-wagon, 7 of which the baggage-man left at the depot. How many were left in the wagon?
15. Out of 15 vases which were in a basket 6 were broken. How many were uninjured?
16. Mr. Jones planted 17 shade-trees, but 5 of them died. How many lived?
17. In a class of 19 all but 6 were promoted. How many were promoted?
18. There were 14 persons on board a ship that was wrecked, of whom 8 were saved. How many were lost?
19. $16 + ? = 18.$ $18 - ? = 12.$ $13 + ? = 19.$

SLATE EXERCISES.

Copy, subtract, and add the following:

9	7	8	6	7	5	8	7
<u>3</u>	<u>3</u>	<u>4</u>	<u>2</u>	<u>4</u>	<u>2</u>	<u>3</u>	<u>1</u>

LESSON XXVII.

1. Robert's father gave him 10 doves, but 9 of them died because they were not properly cared for. How many of them lived?

2. Eva solved 11 examples, 9 of which were correct. How many were wrong?

3. A painter bought 12 gallons of oil, and used 9 gallons. How many gallons had he left?



4. A grocer bought 13 casks of vinegar, and sold 9 casks. How many casks had he left?

5. How many are 14 less 9? How many are 15 less 9? $15 - 9 = ?$ $15 - ? = 9$.

6. From a group of 16 boys 9 ran away. How many were left? $16 - 9 = ?$ $16 - ? = 9$.

7. 9 from 17 leave how many? $17 - 9 = ?$

8. How many are 18 less 9? $18 - 9 = ?$

9. A merchant bought 11 chests of tea, and sold all but 1 of them. How many did he sell? $11 - 10 = ?$ $11 - ? = 10$.

10. A boy had 12 steel-pens, and gave away 10 of them. How many had he left?

11. A man bought 13 tons of hay, and, after feeding 10 tons to his horses, sold the rest. How many tons did he sell? $13 - 10 = ?$ $14 - 10 = ?$

12. $15 - 10 = ?$ $16 - 10 = ?$ $17 - 10 = ?$

$18 - 10 = ?$ $18 - ? = 10$. $10 + ? = 18$.

14. A merchant bought 18 whips, and sold all but 8. How many did he sell? $18 - 8 = ?$
15. How many are 19 stoves less 10 stoves?
16. Form the subtraction tables of nines and tens.

TABLES.

$9 - 9 = 0$	$14 - 9 = 5$	$10 - 10 = 0$	$15 - 10 = 5$
$10 - 9 = 1$	$15 - 9 = 6$	$11 - 10 = 1$	$16 - 10 = 6$
$11 - 9 = 2$	$16 - 9 = 7$	$12 - 10 = 2$	$17 - 10 = 7$
$12 - 9 = 3$	$17 - 9 = 8$	$13 - 10 = 3$	$18 - 10 = 8$
$13 - 9 = 4$	$18 - 9 = 9$	$14 - 10 = 4$	$19 - 10 = 9$

LESSON XXVIII.

1. Begin with 1 and count to 11 by 2's.
2. Begin at 11 and count back to 1 by 2's.
3. Count 15 by 3's. Count 16 by 4's.
4. Count back from 15 to 0 by 3's.
5. Count back from 20 to 0 by 5's.
6. Henry had fifteen dollars. He gave 2 dollars for a hat, 3 dollars for a vest, and 6 dollars for a coat. How much had he left?
7. What number added to 3 makes 10?
8. What number added to 9 makes 17?
9. A harness-maker having 19 harnesses, sold all but 9. How many did he sell? $19 - ? = 9$.

LESSON XXIX.

1. A man having 18 butter-tubs, sold 3 at one time, 5 at another, and 6 at another. How many tubs had he left?



2. In a room there are 14 flower-pots. There are 4 in one window, 5 in another, and the rest are in the third window. How many are there in the third window?

3. On the first vine there are 12 bunches of grapes, on another there are 3 bunches, and on another 4 bunches. How many bunches more are there on the first vine than on the other two?
 $12 - (3 + 4) = ?$

4. How many are 7 and 5 less 3?
 $7 + 5 - 3 = ?$

5. There are 13 boys playing ball, and 5 playing marbles. How many more are there playing ball than there are playing marbles?
 $13 - 5 = ?$

6. What is meant by the term addition? What is meant by the term subtraction?

7. Julia is 9 years old, and her sister is 5 years older. What is the age of her sister?

8. Charles is 6 years old, and James is 17 years old. How much older than Charles is James?

9. What number added to 7 will make 15?

10. What number added to 5 will make 12?

REVIEW EXERCISES.

Find the value of each of the following:

$8 - 2$	$9 - 3$	$8 - 4$	$9 - 6$	$6 - 2$
$7 - 5$	$8 - 3$	$7 - 5$	$6 - 3$	$8 - 7$
$4 - 1$	$9 - 4$	$7 - 2$	$9 - 2$	$8 - 3$
$6 - 6$	$6 - 1$	$8 - 2$	$6 - 4$	$7 - 3$
$7 - 2$	$5 - 2$	$6 - 4$	$8 - 3$	$9 - 7$
$8 - 5$	$9 - 4$	$8 - 1$	$6 - 5$	$7 - 3$
$12 - 4$	$15 - 6$	$13 - 6$	$14 - 9$	$16 - 6$
$15 - 6$	$17 - 9$	$12 - 8$	$11 - 4$	$15 - 7$
$13 - 4$	$10 - 5$	$14 - 9$	$13 - 9$	$11 - 8$
$18 - 9$	$17 - 8$	$10 - 8$	$11 - 8$	$16 - 9$
$15 - 6$	$13 - 7$	$15 - 6$	$12 - 7$	$14 - 5$

Find the value of the following, without using slate:

$3 + 2 - 4$	$4 + 6 - 5$	$6 + 3 - 2$	$5 + 6 - 8$
$4 - 3 + 6$	$9 - 4 + 2$	$6 + 5 - 8$	$5 + 6 - 9$
$5 + 8 - 7$	$6 + 9 - 5$	$9 - 5 + 2$	$6 + 7 - 6$
$4 + 7 - 3$	$5 + 6 - 9$	$8 + 7 - 9$	$6 - 3 + 4$
$8 + 5 - 3$	$9 - 6 - 2$	$9 - 8 + 6$	$8 - 3 - 4$
$9 - 6 + 5$	$9 + 5 - 6$	$8 + 2 - 6$	$9 - 3 + 2$
$7 - 2 + 5$	$8 - 3 + 4$	$6 + 3 - 8$	$7 + 5 - 9$
$8 - 4 + 3$	$6 - 4 + 2$	$7 - 5 + 6$	$9 - 7 + 2$
$9 + 2 - 8$	$8 + 6 - 9$	$7 + 3 - 4$	$9 - 4 + 2$
$8 + 3 - 9$	$8 - 6 + 2$	$9 - 7 + 3$	$8 - 6 - 2$
$8 - 2 - 4$	$9 - 3 - 6$	$8 - 6 + 2$	$8 + 6 - 9$
$9 - 3 + 6$	$9 + 2 - 8$	$9 - 6 + 4$	$8 - 3 + 7$
$6 - 4 + 2$	$6 - 4 - 2$	$8 + 3 - 9$	$8 - 3 - 4$

REVIEW EXERCISES.

Copy and find the value of the following:

$6 + 3 - 4 + 2 - 6$	$7 - 3 + 8 - 6 + 2$
$5 - 3 + 7 - 2 - 6$	$8 - 3 + 6 - 5 - 4$
$5 + 9 - 8 - 3 + 2$	$7 - 5 + 4 + 2 - 8$
$9 - 3 + 2 - 6 + 4$	$9 - 3 - 4 + 6 + 2$
$5 + 6 + 3 - 3 - 9$	$9 - 3 + 6 - 3 - 8$
$8 + 3 - 7 - 4 + 2$	$5 + 2 - 3 + 6 - 4$
$9 - 3 + 6 - 4 + 8$	$8 - 3 + 7 + 2 - 6$
$9 - 4 + 3 + 2 - 6$	$9 - 4 + 3 + 2 - 8$
$5 + 2 - 3 + 4 - 8$	$2 + 6 - 3 + 7 - 5$
$9 - 3 + 4 - 3 + 2$	$6 - 3 + 4 - 6 + 2$
$4 + 2 - 3 + 6 - 4$	$7 - 3 + 2 - 6 + 4$

When an example has several numbers inclosed in a parenthesis, find the value of those within the parenthesis first, and then of this result, and the rest of the numbers.

Thus, $4 + 6 - (3 + 2 - 4) = 4 + 6 - 1$; for $(3 + 2 - 4) = 1$.

Copy and find the value of the following:

$5 - 8 - (3 + 6 - 2)$	$6 + 8 - (7 - 2 + 6)$
$6 + 3 + (4 - 3 + 2)$	$7 + 3 - (5 + 2 - 6)$
$5 + 4 - (6 + 2 - 5)$	$9 - 2 + (6 - 4 + 2)$
$5 - 4 - (8 + 2 - 9)$	$8 + 6 - (2 + 3 - 1)$
$6 + 8 - (3 + 4 - 2)$	$8 - 4 + (8 - 6 + 4)$
$9 - 3 + (2 + 6 - 4)$	$9 + 8 - (8 - 3 + 2)$
$9 + 6 - (3 - 2 + 7)$	$9 - 7 - (8 - 6 - 2)$
$8 - 3 + (2 + 6 - 3)$	$9 + 2 - (7 - 4 - 2)$
$6 + 5 - (6 - [8 - 3])$	$2 + 6 - (3 - [4 - 3])$



LESSON XXX.

1. How many quails are there in each group?
2. Express ten on your slates.
3. How many quails are there in two of the groups?
4. How many are 1 ten and 1 ten?
5. Express 2 tens, or twenty: 20. What does the 2 represent? What does the 0 show?
6. Express 2 tens and 1, or twenty-one: 21.
7. Express 2 tens and 2 ones, or twenty-two.
8. Express twenty-three, twenty-four, twenty-five, twenty-six, twenty-seven, twenty-eight, twenty-nine.
9. Read the numbers you have written.
10. How many quails are there in the 3 groups?
11. Express 3 tens, or thirty: 30. What does the figure 3 represent? What does the 0 show?
12. Express 3 tens and 1, or thirty-one. 3 tens and 2 ones, or thirty-two.
13. Express all the numbers from thirty-two to thirty-nine.
14. Express 4 tens, or forty. Express 4 tens and 1, or forty-one.