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# Math 501

## Lesson 1 pp. 3-4

### Lesson Preparation

- LightUnit 501 for each student
- Read “To the Teacher” just before page 1 of the LightUnit (page 2 in this guide).

### Drill

- Do Speed Drill 1 on page 65. Students should answer as many as they can in 1 minute. Then they should write the number correct on the blank at the top of the speed drill.

### Ready to Go?

Welcome to fifth grade math. Don't you feel refreshed and ready to go after a summer vacation? Good! Did you go on any trips this summer? Did you travel to a foreign country?

Have you ever wanted to travel to Central America, Europe, or Africa? Well, here's your chance. The themes in Math 500 will take you to mission stations around the world. Of course, you already know that the climate, plant and animal life, and way of living differ in other countries. Yet all people around the world have the same basic need—Jesus. Remember to pray for the missionaries and people in the countries you visit.

Math 501 is different from other LightUnits. It helps you brush up on what you learned in fourth grade. It gives you a series of pretests and practice pages to prepare you for your travels.

Most lessons begin with a pretest of a particular area of math you studied in Grade 4. The scoring box at the end of the test shows you how many problems you must have correct to pass. If you pass the pretest, your teacher may allow you to skip the practice exercises in the next day's lesson. The practice exercises help you to relearn what you may have forgotten from last year.

Some lessons are quite easy, but others may take a little more time and effort to complete. Don't be discouraged; we all forget. Just do your best to get ready for your first flight.




2

### Introduce the LightUnit

Hand out LightUnit 501. Read the introduction on page 2 together. Page through the LightUnit together, taking time to discuss things the students see that look interesting. Tell your students this LightUnit reviews what they learned in fourth grade. After successfully finishing this LightUnit, they will be all set to travel into the rest of fifth grade math.

○ Teacher Checks on page 3.

△ Teacher Aide Check on pages 3 and 4.



Speed Drill 1

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## Pretest – Integers and Expressions

11  
12

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Ask your teacher to initial the circle before you begin this pretest.

**△ Read the numbers to your teacher.** (1 point each.) [3]


1. -4      -23      -30

**Write the negative numbers.** (1 point each.) [2]

2. negative twenty-two    -22

3. negative six    -6

**Write < or > .** (1 point each.) [4]



4. a. -3  2      b. 5  -1      c. -6  -10      d. -4  4

**Simplify these expressions. Work from left to right.** (1 point each.) [3]

5. a. $4 + 3 - 2$	b. $3 \times 4 - 4$	c. $10 \div 5 \times 4$
$7 - 2$	$12 - 4$	$2 \times 4$
5	8	8

Ask your teacher to look over this pretest and mark one of the boxes on page 5.

I can have 12 answers correct.  
I must have 11 answers correct to pass.  
I have \_\_\_\_\_ correct.

3

**○ Teacher Check.**

When student is prepared to take the pretest, initial circle and give permission to proceed.

**△ Teacher Aide Check.**

Listen to each student read the numbers.

**Pretest – Integers and Expressions**

Students must have 11 answers correct to pass this test.

**○ Teacher Check.**

Using the student's score from the test, check the correct box at the beginning of the next lesson and circle all extra activities the student should do.

**Tips for Struggling Students**

- ➔ When the symbols < and > are used, the point of the symbol always points toward the smaller number.
- ➔ Students may need to have the terms *negative* and *simplify* explained to them.

**Helpful Hints**

- ➔ Students may need a reminder about < and > signs. These signs look like an alligator's mouth that is wide open to gobble up the larger number. The widest part is always next to the larger number. If the wide part of the sign is first, (>) it is a *greater than* symbol. If the point is first, (<) it is a *less than* symbol.
- ➔ When simplifying expressions, remind students to work from left to right. They must do multiplication and division first and then addition and subtraction.

→ **Fascinating Discoveries: Math in the Bible**

Lesson 1



**Math in the Bible**

Look up the following Bible references. Read each passage and answer the questions. Then do the math necessary to find the answers.

1. Genesis 9:28-29

How long did Noah live after the flood? 350 years

How old was Noah when he died? 950 years

How old was Noah at the time of the Flood?

600 years

My Work Space

$$\begin{array}{r} 950 \\ - 350 \\ \hline 600 \end{array}$$

2. Genesis 42:3-4; Genesis 45:22

How many brothers did Joseph have? 11 brothers

How many sets of clothing did Joseph give to his brothers in all? 15 sets

3. How many books are in the New Testament? 27 books

The Apostle Paul wrote all but 14 books of the New Testament. How many New Testament books did the Apostle Paul write? 13 books

My Work Space

$$\begin{array}{r} 27 \\ - 14 \\ \hline 13 \end{array}$$

4. Joshua 10:13

For how long did the sun not go down?

about a whole day

About how many hours is that? 24 hours

5. Exodus 16:22

a. How much manna were the children of Israel to gather on the sixth day?

2 omers for each man

△ b. How much would you have had to gather for your family?

teacher aide check

4


△ **Teacher Aide Check.**

**Teaching the Lesson**

**Math in the Bible**

This activity is optional. You may direct students to complete it as they have time.

**Lesson 2 pp. 5-8**



2

Speed Drill 2

I passed the pretest in Lesson 1.  
Now I will do the pretest on pages 7, 8.  
I may also do *Extra Activity* (1, 2, 3, 4, 5, 6, 7, 8, 9).\*

I did not pass the pretest in Lesson 1.  
I will do all of Lesson 2.

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**Practice Set – Integers and Expressions**

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**Introduced in Math 406, Lesson 9**

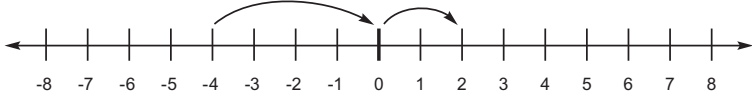
When you count backward, you can count less than zero. Numbers less than zero are written with a minus sign. They are called negative numbers. -7 is “negative 7.”

△ **Read these to your teacher.**

1. -9                  -68                  -29                  -46                  -52

**Introduced in Math 406, Lesson 9**

Look at the number line. From -4 to 2 is 6 spaces.



**Answer these questions using the number line. If the number line is not long enough, imagine where the number would be.**

2. How many spaces is it from -6 to 3?      9  

3. How many spaces is it from -5 to -1?      4  

4. How many spaces is it from -9 to -3?      6  

5. How many spaces is it from 3 to 8?      5  

5

**Practice Set – Integers and Expressions**

**Pretest – Measures Lesson Preparation**

- Did you check the pretest from Lesson 1 and mark the appropriate box at the top of page 5?
- Rulers
- Copy Extra Practice Sheets 1, 2 as needed

**Drill**

- Do Speed Drill 2–LU p. 65. Time: 1 minute. Students should write the number correct on the blank at the top of the speed drill.

△ **Teacher Aide Check.**

Listen to each student read the numbers.

**Teaching the Lesson**

**Practice Set – Integers and Expressions** (for students who didn’t pass Lesson 1 pretest).

○ **Teacher Checks on pages 7 and 8.**

△ **Teacher Aide Check on page 5.**

*\*Note: Answers to the Extra Activity sheets are found on pages 64-69 of this Teacher’s Guide.*

**Tips for Struggling Students**

→ Struggling students may benefit from the extra practice sheets in Appendix E of this guide.

**Helpful Hints**

→ Negative numbers are always located to the left of zero on the number line. On a thermometer they are below the zero. Temperatures below zero are cold because there is less heat in the air. The farther below zero it is, the less heat there is; therefore, -18 is less than 7 even though it is a bigger number.

**Lesson 2**

Write these numbers.

6. a. negative thirty-two -32                      b. negative forty-five -45  
 7. a. negative twenty-nine -29                      b. negative sixty -60  
 8. a. negative twenty-one -21                      b. negative ninety-three -93

**Introduced in Math 407, Lesson 12**

When comparing two numbers on a number line, the number to the left is always smaller than the number on the right.

Write < or >.

9. a.  $-4 < -1$                       b.  $1 > -3$                       c.  $-10 < -3$                       d.  $-14 < 14$   
 10. a.  $-10 < 8$                       b.  $-6 < -2$                       c.  $12 < 45$                       d.  $3 > -3$

**Introduced in Math 407, Lesson 13**

An expression is one way to show a number. Always work from left to right to simplify an expression.

Simplify →  $7 + 5 - 3$   
 Simplify again →  $12 - 3$   
 Simplified → 9

Simplify these expressions.

11. a.  $4 + 6 + 4 + 9$                       b.  $8 - 3 + 4$                       c.  $4 \times 3 \div 2 + 4$   
            $10 + 4 + 9$                                        $5 + 4$                                        $12 \div 2 + 4$   
            $14 + 9$      $9$      $6 + 4$   
            $23$         $10$
12. a.  $30 \div 6 \times 3 - 2$                       b.  $6 + 4 - 8 + 3$                       c.  $3 + 7 + 8 - 5$   
            $5 \times 3 - 2$                                        $10 - 8 + 3$                                        $10 + 8 - 5$   
            $15 - 2$      $2 + 3$      $18 - 5$   
            $13$      $5$      $13$

**Board Work**

- Have students take turns saying these numbers aloud: -23 -2 -37 -85 -47  
 → Draw a number line on the board. Point to two numbers and have students respond with the number of spaces between them.  
 → Write < or >.  
 $-8 < -3$      $0 > -9$      $5 > -5$      $-18 < 4$      $-17 < 17$      $7 < 12$      $-13 < -1$

→ Simplify these expressions

- |                  |                   |                    |                         |                 |
|------------------|-------------------|--------------------|-------------------------|-----------------|
| $11 + 7 + 2 + 8$ | $16 + 2 - 15 + 3$ | $8 \div 4 + 9 - 3$ | $4 \times 6 \div 8 + 2$ | $18 \div 9 - 1$ |
| $18 + 2 + 8$     | $18 - 15 + 3$     | $2 + 9 - 3$        | $24 \div 8 + 2$         | $2 - 1$         |
| $20 + 8$         | $3 + 3$           | $11 - 3$           | $3 + 2$                 | $1$             |
| $28$             | $6$               | $8$                | $5$                     |                 |

**Pretest – Measures**



Ask your teacher to initial the circle before you begin this pretest.

Measure each line to the fourth-inch. (1 point each.) [3]

1.  $2\frac{3}{4}$  in \_\_\_\_\_
2.  $3\frac{1}{2}$  in \_\_\_\_\_
3.  $1\frac{1}{4}$  in \_\_\_\_\_

Write the numbers. (1 point each.) [35]

Capacity and Weight

4. 1 L = 1,000 mL
5. 1 tbsp = 3 tsp
6. 1 ton = 2,000 lb
7. 1 g = 1,000 mg
8. 1 metric ton = 1,000 kg
9. 1 lb = 16 oz
10. 1 kg = 1,000 g

Linear Measure

11. 1 mi = 5,280 ft
12. 1 cm = 10 mm
13. 1 km = 1,000 m
14. 1 m = 1,000 mm

Angles

15. A right angle has 90 °.

Calendar and Clock

16. January has 31 days.
17. February has 28 days.
18. December has 31 days.
19. May has 31 days.
20. July has 31 days.
21. September has 30 days.
22. 1 leap yr = 366 days
23. 1 yr = 52 wk
24. 1 min = 60 sec
25. October has 31 days.
26. August has 31 days.
27. March has 31 days.
28. April has 30 days.
29. June has 30 days.
30. November has 30 days.
31. 1 yr = 365 days
32. February has 29 days in a leap year.

**Teacher Check.**

When student is prepared to take the pretest, initial circle and give permission to proceed.

**Pretest – Measures** (for all students).

➔ Make sure students' rulers have all the markings and are not scratched. Students must have 34 answers correct to pass this test.

**Teacher Notes:**

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