

Math and Christian Discipleship

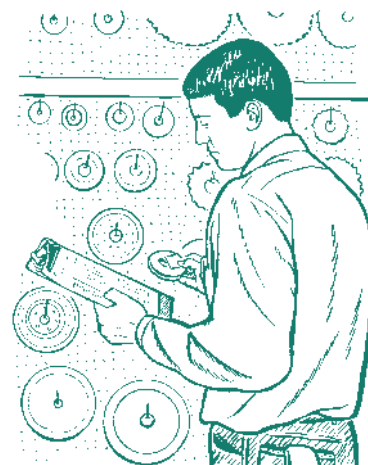
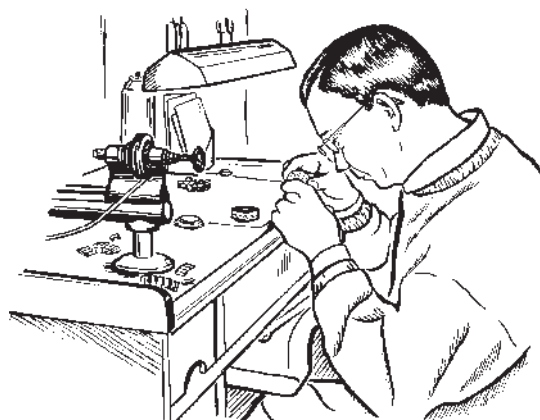
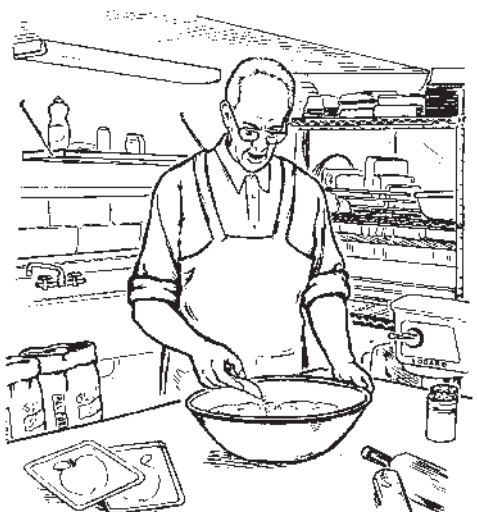
As you stand on the threshold of eighth grade, you face the end of elementary education. The math LightUnit themes this year will be windows into the lives of people who follow Biblical principles when making decisions each day.

Life provides us with more opportunities than we will ever have time to pursue. Therefore, it is necessary to establish goals for life and to consider each opportunity in light of those goals. God asks that our top priority be to seek His kingdom.

“Seek ye first the kingdom of God and his righteousness, and all these things shall be added unto you.” (Matthew 6:33) In the phrase *all these things*, Christ was referring to the essentials of life—food, clothing, and shelter. These things are important, but they will eventually pass away. The Christian’s primary citizenship is in heaven, and his goals are to use earthly possessions to increase heavenly treasures and bring glory to God. This means a Christian will make some choices that do not make sense to an earthly-minded person.

Many of life’s decisions involve mathematics. As you read the various LightUnit themes and work through the story problems in Math 800, consider the Biblical values and goals that influence the decisions of each person mentioned.

Mathematical skills are like tools. These skills make it possible to do tasks that otherwise would be impossible. Remember you are learning math facts and skills to equip you to help build the kingdom of God.



Pretest – Integer Computation

19
21



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

Change each subtraction to adding the opposite. Then combine. (1 point each.) [3]

1. a. $-4 - (-13)$

b. $7 - (+25)$

c. $8 - (-13)$

Write the products. (1 point each.) [6]

2. a. $-8 \times (-5) =$ _____

b. $-\frac{4}{5} \times \frac{3}{4} =$ _____

c. $\frac{7}{8} \times \frac{4}{5} =$ _____

3. a. $-6 \times 11 =$ _____

b. $3 \times (-9) =$ _____

c. $-12 \times (-10) =$ _____

Write the quotients. (1 point each.) [6]

4. a. $-54 \div 6 =$ _____

b. $-6 \overline{)48}$

c. $9 \overline{)-45}$

5. a. $\frac{-18}{6} =$ _____

b. $\frac{-22}{-3} =$ _____

c. $\frac{-2}{-10} =$ _____

Solve. (1 point each.) [6]

6. a. $-9 + (-6) =$ _____

b. $-56 \div (-7) =$ _____

c. $9 \times (-7) =$ _____

7. a. $-2 - 6 =$ _____

b. $-8 \times (-6) =$ _____

c. $-4 + 5 =$ _____



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

<p>I can have 21 answers correct. I must have 19 answers correct to pass. I have ____ correct.</p>
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Lesson 1

Math Facts to Memorize

The following facts will appear on the pretest in Lesson 2. Make sure you know these facts for success on the pretest. Memorizing these facts will also help you throughout the rest of Math 800.

Formulas

Volume of a cylinder $V = Bh$

Area of a trapezoid $A = \frac{1}{2}(b_1 + b_2)h$

Volume of a rectangular prism $V = lwh$

Area of a parallelogram $A = bh$

Volume of a triangular prism $V = Bh$

U.S. / Metric Conversions

1 kg \approx 2.2 lb

1 gal \approx 3.8 L

1 mi \approx 1.6 km

1 in = 2.54 cm

1 km \approx $\frac{5}{8}$ mi

1 m \approx 1.1 yd

Powers of 2, 3 and 5

$2^3 = 8$

$2^4 = 16$

$2^5 = 32$

$2^6 = 64$

$3^3 = 27$

$5^3 = 125$

Fractions and Their Decimal Equivalents

$\frac{1}{3} = 0.\overline{3}$

$\frac{2}{3} = 0.\overline{6}$

$\frac{1}{6} = 0.1\overline{6}$

$\frac{5}{6} = 0.8\overline{3}$

$\frac{1}{8} = 0.125$

$\frac{3}{8} = 0.375$

$\frac{5}{8} = 0.625$

$\frac{7}{8} = 0.875$

Fractions and Their Percent Equivalents

$\frac{1}{3} = 33\frac{1}{3}\%$

$\frac{2}{3} = 66\frac{2}{3}\%$

$\frac{1}{6} = 16\frac{2}{3}\%$

$\frac{5}{6} = 83\frac{1}{3}\%$

$\frac{1}{8} = 12\frac{1}{2}\%$

$\frac{3}{8} = 37\frac{1}{2}\%$

$\frac{5}{8} = 62\frac{1}{2}\%$

$\frac{7}{8} = 87\frac{1}{2}\%$

Symbols

less than or equal to

\leq

greater than or equal to

\geq

Other Facts to Know

In the formula $V = Bh$, the capital B stands for the *area of the base*.

Any number with an exponent of 1 equals the number itself.

Any number (except 0) with an exponent of 0 equals 1.

Another name for *average* is *mean*.

The middle number in an ordered list is the *median*.

The number that occurs most often in a list is the *mode*.

Lesson

2

- Passed Lesson 1 pretest.**
Do the pretest on pages 6, 7.
Do *Extra Activity* (1, 2, 3, 4, 5, 6, 7, 8, 9).
- Did not pass Lesson 1 pretest.**
Do all of Lesson 2.

Practice Set – Integer Computation

Introduced in Math 702, Lesson 13.

Subtracting Negative Integers

When we see a subtraction sign, we can think *add the opposite* instead of thinking *subtract*. This helps us avoid confusion when subtracting negative numbers.

$$5 - (-2) = ?$$

$$5 + (+2) = 7$$



Change each subtraction to adding the opposite. Then combine.

1. a. $-5 - (-18)$

b. $6 - (+22)$

c. $11 - (-19)$

Lesson 2

Introduced in Math 706, Lessons 2, 3, and 7.

Rules for Multiplying or Dividing Integers

Same signs = Positive answer

$$6 \times 2 = 12$$

$$-48 \div (-3) = 16$$

$$-6 \times (-2) = 12$$

$$\frac{-48}{-3} = 16$$

Different signs = Negative answer

$$-6 \times 2 = (-12)$$

$$32 \div (-2) = -16$$

$$6 \times (-2) = (-12)$$

$$2 \overline{) -16} \begin{array}{r} -16 \\ \underline{-16} \\ 0 \end{array}$$

Write the products.

2. a. $-9 \times (-4) = \underline{\hspace{2cm}}$

b. $\frac{2}{-3} \times \frac{5}{8} = \underline{\hspace{2cm}}$

c. $\frac{5}{6} \times \frac{3}{8} = \underline{\hspace{2cm}}$

3. a. $-8 \times 7 = \underline{\hspace{2cm}}$

b. $5 \times (-7) = \underline{\hspace{2cm}}$

c. $-11 \times (-9) = \underline{\hspace{2cm}}$

Write the quotients.

4. a. $-35 \div 7 = \underline{\hspace{2cm}}$

b. $-9 \overline{) 54}$

c. $-8 \overline{) -48}$

5. a. $\frac{-24}{8} = \underline{\hspace{2cm}}$

b. $\frac{-26}{-5} = \underline{\hspace{2cm}}$

c. $\frac{-1}{-5} = \underline{\hspace{2cm}}$

Mixed Review of Operations With Integers

Solve.

6. a. $-7 + (-9) = \underline{\hspace{2cm}}$

b. $-81 \div (-9) = \underline{\hspace{2cm}}$

c. $8 \times (-8) = \underline{\hspace{2cm}}$

7. a. $-3 - 9 = \underline{\hspace{2cm}}$

b. $-7 \times (-11) = \underline{\hspace{2cm}}$

c. $-5 + 14 = \underline{\hspace{2cm}}$

Pretest – Math Facts To Know

37
41



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

Write the answers. (1 point each blank.) [41]

1. The *less than or equal to* symbol is $\underline{\hspace{2cm}}$.

2. The *greater than or equal to* symbol is $\underline{\hspace{2cm}}$.

3. The middle number in an ordered list is the _____.
4. Any number except 0 with an exponent of 0 equals _____.
5. The number that occurs most often in a list is the _____.
6. Any number with an exponent of _____ equals the number itself.
7. The formula for finding the volume of a cylinder is _____.
8. The formula for finding the area of a trapezoid is _____.
9. The formula for finding the volume of a triangular prism is _____.
10. The formula for finding the volume of a rectangular prism is _____.
11. In the formula $V = Bh$, the capital B stands for the _____ of the _____.
12. a. 1 kilometer \approx _____ mile b. 1 meter \approx _____ yards
13. a. 1 gallon \approx _____ liters b. 1 mile \approx _____ kilometers
14. a. 1 inch = _____ centimeters b. 1 kilogram \approx _____ pounds
15. a. The decimal for $\frac{5}{8}$ is _____.
15. b. The decimal for $\frac{3}{8}$ is _____.
16. a. The decimal for $\frac{1}{8}$ is _____.
16. b. The decimal for $\frac{7}{8}$ is _____.
17. a. The repeating decimal for $\frac{1}{6}$ is _____.
17. b. The repeating decimal for $\frac{1}{3}$ is _____.
18. a. The repeating decimal for $\frac{2}{3}$ is _____.
18. b. The repeating decimal for $\frac{5}{6}$ is _____.
19. a. Another name for *average* is _____.
19. b. $\frac{2}{3} =$ _____% c. $2^4 =$ _____
20. a. $5^3 =$ _____ b. $\frac{1}{6} =$ _____% c. $\frac{7}{8} =$ _____% d. $2^6 =$ _____
21. a. $\frac{1}{8} =$ _____% b. $2^5 =$ _____ c. $\frac{5}{8} =$ _____% d. $\frac{1}{3} =$ _____%
22. a. $3^3 =$ _____ b. $\frac{3}{8} =$ _____% c. $2^3 =$ _____ d. $\frac{5}{6} =$ _____%



Ask your teacher to look over this pretest and mark the box on page 8.

I can have 41 answers correct.
 I must have 37 answers correct to pass.
 I have ____ correct.

- Passed Lesson 2 pretest.**
Do the pretest on pages 9, 10.
Do *Extra Activity* (1, 2, 3, 4, 5, 6, 7, 8, 9).
- Did not pass Lesson 2 pretest.**
Do all of Lesson 3.

Practice Set – Math Facts to Know

Introduced throughout Math 700 LightUnits

Math Facts for Memorization

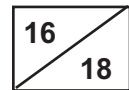
Restudy any parts of pages 6 and 7 that you missed on the pretest before trying the drill below. Once you start, try to answer without looking back.

Write the answers.

1. a. $2^3 =$ _____ b. $2^4 =$ _____ c. $2^5 =$ _____
2. a. $3^3 =$ _____ b. $5^3 =$ _____ c. $2^6 =$ _____
3. The *less than or equal to* symbol is _____.
4. The *greater than or equal to* symbol is _____.
5. Another name for *average* is _____.
6. The middle number in an ordered list is the _____.
7. The number that occurs most often in a list is the _____.
8. Any number except 0 with an exponent of 0 equals _____.
9. Any number with an exponent of _____ equals the number itself.
10. The formula for finding the volume of a cylinder is _____.
11. The formula for finding the volume of a rectangular prism is _____.
12. The formula for finding the area of a trapezoid is _____.
13. The formula for finding the volume of a triangular prism is _____.
14. In the formula $V = Bh$, the capital B stands for the _____ of the _____.
15. a. 1 gallon \approx _____ liters b. 1 meter \approx _____ yards
16. a. 1 mile \approx _____ kilometers b. 1 kilometer \approx _____ mile
17. a. 1 inch = _____ centimeters b. 1 kilogram \approx _____ pounds
18. a. The decimal for $\frac{1}{8}$ is _____.
18. b. The decimal for $\frac{3}{8}$ is _____.

19. a. The decimal for $\frac{5}{8}$ is _____.
20. a. The repeating decimal for $\frac{1}{3}$ is _____.
21. a. The repeating decimal for $\frac{1}{6}$ is _____.
22. a. $\frac{1}{3} =$ _____% b. $\frac{2}{3} =$ _____%
23. a. $\frac{1}{8} =$ _____% b. $\frac{3}{8} =$ _____%
- b. The decimal for $\frac{7}{8}$ is _____.
- b. The repeating decimal for $\frac{2}{3}$ is _____.
- b. The repeating decimal for $\frac{5}{6}$ is _____.
- c. $\frac{1}{6} =$ _____% d. $\frac{5}{6} =$ _____%
- c. $\frac{5}{8} =$ _____% d. $\frac{7}{8} =$ _____%

Pretest – Solving Equations



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

Solve. (1 point each.) [4]

1. a. $16 + \frac{y}{8} = 25$

b. $3n - 7 = 15$

c. $8x + 25 = 28$

d. $35 = \frac{x}{5} + 29$

Simplify and solve. (1 point each.) [6]

2. a. $3 + 6 \cdot 8 = 3n + 9 + n - 2$

b. $36 \div 6 + 3 \cdot 2 = n + 42 \div 7$

c. $2(x + 3) = 3^2 + 3(5)$

Lesson 3

3. a. $3(x + 5) = 3^3 - 2(3)$

b. $48 \div 2^3 = 9n + n$

c. $7n + 30 \div 6 = 6 \times 9 + 7$

Translate the sentences into equations. Use n for the variable. (1 point each.) [4]

4. The quotient of a number and twenty-five is six. _____

5. Twelve more than a number is sixteen. _____

6. The difference between a number and nine is sixteen. _____

7. Twice a number is twenty-four. _____

Choose the correct equation for each story problem. Solve. (1 point each blank.) [4]

8. Ryan's age decreased by 5 is 9. How old is Ryan?

$r + 5 = 9$ $9 - r = 5$ $r - 5 = 9$

a. Equation: _____ b. Answer: _____

9. Dad's age is 2 less than 3 times Jared's age. Jared is 14. How old is Dad?

$3d = 14 - 2$ $d = 3(14) - 2$ $d - 2 = 3(14)$

a. Equation: _____ b. Answer: _____



Ask your teacher to look over this pretest and mark the box on the next page.

I can have 18 answers correct.
I must have 16 answers correct to pass.
I have ____ correct.