

Lesson #1: Basic Skills Math Diagnostic

Objectives

Students will be able to...

- Apply the four basic math skills in whole numbers, fractions, decimals, and percentages using real life situations.
- Identify the five major math disciplines used in the construction industry.

Common Core Standards

Number Sense 1.2, 1.3, & 3.1
Cabinet Making and Wood Products Pathway 1.4
G-MG 1, 3
RSIT 11-12.2
WHSST 11-12.9
Technical Knowledge and Skills 10.2
CTE Pathway D2.1
Demonstration and Application 11.1

Materials

Math Skills Pre-Assessment
History of Measurement Worksheet

Lesson Sequence

- Students will complete the *Math Skills Pre-assessment*. Emphasize this information will be used by the teacher to understand what each student knows now and what needs more practice. Remind students that math is heavily involved with construction.
- When students finish assessment pass out the *History of Measurement Worksheet*.

Assessment

Use results of Math Skills pre-assessment to better understand student's current math skills. Supplemental material may need to be added depending on student's current levels of math. Re-teaching math skills may need to follow this lesson depending on student's skill levels.

Accommodations/Modifications

Multiplication Chart may need to be provided.
Calculator may need to be provided.

Math Skills Pre-Assessment

Directions: Circle the correct answer.

1. Round 5856 to the nearest hundred.

- A. 58
- B. 586
- C. 5800
- D. 5900

2.
$$\begin{array}{r} 609 \\ \times 57 \\ \hline \end{array}$$

- A. 34,713
- B. 4,876,263
- C. 552,483
- D. None of these

3. $5173 \div 64 =$

- A. 8 r20
- B. 808 r20
- C. 880
- D. 880 r20

4. Raul has a small business. On Monday his cash receipts were \$348.16. On Tuesday he took in a total of \$419.23 but paid bills totaling \$689.00. Wednesday through Friday, his receipts totaled \$1872.89. What was his net profit for the next week?

- A. \$1183.89
- B. \$1951.28
- C. \$1959.28
- D. None of these

5. Sonia received the following scores on six tests: 78, 85, 82, 91, 76, 88. What was Sonia's average score? (Round off to nearest whole number.)

- A. 80
- B. 82
- C. 83
- D. 89

6. Darrell worked for a construction supply company. He received a shipment of 8456 grommets, which needed to be repackaged into smaller packages of 48 grommets. How many packages was he able to fill using the new shipment?

- A. 175
- B. 176
- C. 177
- D. None of these

7. Reduce $20/24$ to the lowest terms.

- A. $5/6$
- B. $5/7$
- C. $10/17$
- D. None of these

8. $35/15$ as a mixed number would be:

- A. $2 \frac{1}{3}$
- B. $2 \frac{1}{5}$
- C. $2 \frac{5}{3}$
- D. None of these

Math Skills Pre-Assessment *Answer Key*

1. D

2. A

3. B

4. B

5. C

6. B

7. A

8. A

Short History of Measurement

Directions: Working with a partner read the following statements concerning the history of our modern measurement terms. Clues to solving each statement are contained within each statement and the measurement vocabulary can be found in the Word Bank below.

yard	inch	cubit	kerosene	acre
hand	foot	metric system		tobacco

1. This measurement of approximately 4 inches is still used to calculate how tall a horse is. It is the _____.
2. Tired of relying on the length of the previous king's girdles in determining the length of this unit of measurement, Henry the First decreed: "Henceforth, the _____ shall be the distance from the tip of my nose to the tip of my thumb."
3. The most common unit of measurement in the United States, the Romans referred to it as "one-twelfth of a foot." It roughly equals the width of a person's thumb, but since 1959, the _____ has officially equaled 2.54 centimeters.
4. In 1812, Napoleon noted that the French people were still clinging to traditional units of measurement; even though the _____ was officially adopted by the French government in 1795. This system of measurement originally derived its name from the Greek word "metron", meaning "measure". Today it is also known by the initials SI, or System International, and was legalized in the United States in 1866.
5. The _____ is one of the earliest known units of measurement. It was the standard unit of measurement for thousands of years in many civilizations, though it has widely gone out of popular use today. Archeologists tell us that this unit of measurement was 18 inches long, or approximately the distance from a person's elbow to the tip of their middle finger.
6. This unit of measurement is one of the few that is the same length in England as it is in America. Originally known as "a third of an Ell," it was twelve thumbs in length to the ancient Romans. Today it is known as the _____.
7. This plowman's unit of measurement was historically determined by how much land a man with a yoke of oxen could plow in a day. Today the _____ officially contains 43,560 square feet.
8. Though these units of measurement would get you nowhere in 99.9% of the world today, on the tiny island of Togo in the South Pacific the _____ tin, and the _____ tin are distinctive units of measurement that are still in use.