

Preparing for Pre-Employment Math Testing

Objectives 1. Students will become familiar with different types of math problems 2. Students will demonstrate knowledge of math word problems	Time frame to Complete 90 minutes
Standard(s) Addressed in Lesson	Using Math to Solve Problems and Communicate
Benchmark(s) Addressed in Lesson	M.4.2; M.4.3; M.4.25; M.4.28; M.4.34; M.4.35
Materials <ul style="list-style-type: none">Information handoutSample problems (two handouts) based on math concepts in real life settings (answer keys provided)Scrap paperPencils	
Activities <p><u>Step 1</u> Introduce students to the concept of reading word problems for meaning. Distribute handout #1 with information on keywords for the four basic math operations plus the five step word problem solving process.</p> <p><u>Step 2</u> Using handout #2 (sample word problems, go over locating key words and key information to solve the five problems presented.) Do these problems on the board.</p> <p><u>Step 3</u> Distribute handout #3 and ask the students to solve the problems independently (Handout #3 has sample questions based on the U.S. Census Bureau Practice Test for field employees). Once students have completed the problems go over the answer orally.</p>	
Assessment/Evidence <p>Handout #2 and #3 contain math practice problems to assess students' understanding of solving math problems based on real life settings.</p>	
Adaptations for Beginning Students <p>Beginning students may need to go over the information contained in handout #1 on keywords for solving the four basic math operations. Instructors may need to present examples of practice problems on the board. Beginning students may need to check their work with calculator.</p>	
Adaptations for Advanced Students <p>Advanced students should be doing the practice problems from handout #2 and #3 with speed and accuracy. These students should not need to use a calculator to complete the problems.</p>	

Key Words for Understanding Basic Math Operations and Five-Step Problem Solving Process

(Handout #1)

ADDITION	SUBTRACTION	MULTIPLICATION	DIVISION
add	subtract	times	split
total	difference	of	share
sum	minus	percent of	average
more	less	product	dividend
how many in all?	take away	twice	quotient
profit	loss	three times	
increase	decrease	multiple	

Steps to Solving Process

1. Understand the question
2. Find the information you need to solve the problem.
3. Make a plan to solve the problem.
4. Solve the problem.
5. Check the answer.

Handout #2

In many workplace settings, workers need to know how to do basic computation problems involving decimals, percents, and fractions. Sometimes you may also know how to do word problems. You may encounter problems involving measurement and time.

1. You are a cashier at a grocery store. Your customer, David, buys a pound of bacon \$1.39, one dozen eggs for \$1.29, and a pound of coffee for \$2.79. What is the sum total of his purchases? If David gives you \$10.00 what is his correct change?
2. Wanda baked 168 cookies, packaged them in boxes of 12, and sold each box for \$1.20. How many boxes of 12 can be packaged if there are 168 cookies? What was the total amount of money that Wanda made for all of the boxes sold?
3. Mary charges \$8.50 per hour to clean a house. If she works 25 hours, how much does she earn in one week?
4. William earned \$9.50 an hour. He worked 40 hours one week and received a bonus of \$75.00. How much did he earn that week?
5. Each truck from Jones Removal Company can haul 500 pounds of trash at a time. On Wednesday the company has jobs to remove 1,500 pounds of trash from one site, 500 from another site, and 2,500 from a third site. How many total pounds of trash will be moved by Jones Company that day? How many trips will it take for the Jones Company to remove all of the trash?

Handout #3

1. $.41 + 21.4 + 6.3 + 280$
2. $17.2 \times 40 =$
3. Mr. Ortiz has to successfully interview 90% of his assigned households. He was assigned 500 households. He has interviewed 430 households so far. Has he met his goal?
4. Your new cell phone battery needs to be charged for 3 hours and 45 minutes before using it. If you plug the battery into the charger at 8:20 a.m., you should wait till what time before using it?
5. $2610.0 \text{ miles} - 2554.8 \text{ miles} =$
6. What is 80% of \$1,200?
7. Joan ordered carpet that was $\frac{11}{16}$ inch thick. The pad underneath was $\frac{5}{8}$ inch thick. How much thicker is the carpet than the pad?
8. A customer wants to purchase new carpet, her bedroom measures 12 ft by 15 ft. How many sq. yards does the customer need to buy?
9. Danielle got to work at 9:30 in the morning. She worked a six hour day plus she took a 45 min lunch break. What time did Danielle leave work if she worked 6 hours and took a 45 min lunch?
10. Mike works as a waiter in a restaurant. A couple comes in to have dinner and spend \$45.00. Mike needs to add on 6% sales tax to the couple's bill. Mike also knows they will tip 15% on the original bill. Including the tax and tip, what is the total amount of money the couple should give Mike?

Answer Key for Handout #2

1. Add \$1.39 Subtract \$10.00

$$\begin{array}{r} 1.29 \\ - 5.47 \\ \hline +2.79 \\ \hline \$5.47 \end{array}$$

Answer 1: \$5.47 (Total spent)

Answer 2: \$4.53 (Change)

2. Divide $168 \div 12 = 14$

Multiply $\$1.20 \times 14 = \16.80

Answer 1: 14 Boxes

Answer 2: \$16.80

3. Multiply 25 hours $\times \$8.50 =$

Answer: \$212.50

4. Multiply $\$9.50 \times 40 = \380.00

Add bonus $\$75.00 + \$380.00 = \$455.00$

$$\begin{array}{r} \$380.00 \\ + 75.00 \\ \hline \$455.00 \end{array}$$

Answer: \$455.00

5. Add: 1500 $4,500 \div 500 = 9$

$$\begin{array}{r} 2500 \\ + \underline{500} \\ \hline 4500 \end{array}$$

Answer 1: 4500 lbs. (Total) Answer 2: 9 Trips

Answer Key for Handout #3

1. Add 280.00

21.40

6.30

.41

308.71

Answer: 308.71

2. Multiply 17.2

x 40

Answer: 688.0

3. No, he has not met his goal. He has only interviewed 530 households. He needs 90% of 500.

Multiply: 500

x .90

Answer: 450

4. 8:20 + 3 hours = 11:20

+ 0:45 minutes = 12: 05 P.m.

Answer: 12:05 p.m.

5. Subtract: 2610.0

- 2554.8

Answer: 55.2 miles

6. $80\% = .8$
 $1,200 \times .8 = \$960$

Answer: \$960

7. $5/8 = 10/16$

$$11/16 - 10/16 = 1/16$$

Answer: The carpet is $1/16$ thicker

8. Convert 15 ft to 5 yd ($15 \div 3 = 5$)

Convert 12 ft to 4 yd ($12 \div 3 = 4$)

$$4 \text{ yd} \times 5 \text{ yd} = 20 \text{ sq yards}$$

Answer = 20 sq yards

9. 9:30 am + 6 hours worked = 3:30 pm

$$3:30 \text{ pm} + 45 \text{ min break} = 4:15 \text{ pm}$$

Answer: 4:15 pm

10. $\$45 \times .06 (6\% = .06) = \2.70

$$\$45 \times .15 (15\% = .15) = \$6.75$$

$$2.70 + 6.75 + 45.00 = \$54.45$$

Answer: \$54.45

