



# Plumbers & Steamfitters Local 486

## Joint Journeyman & Apprentice Training Committee

• Baltimore, MD • Martinsburg, WV • Seaford, DE



## SAMPLE MATH TEST

This is a sample math test which is very similar to the math test that is given to an applicant as part of the “application process” for entrance to the Plumbers & Steamfitters Local #486 Apprenticeship Program. You may wish to go over the sample math test to become familiar with the questions prior to making application to the school. Do not send this sample test back to the Training School – we do not grade sample math tests.

### NOTES:

- Calculators and cell phones are not permitted during the math test.
- Do not round your answer up or down. The answer should have the same number of place values as the problem.
- Answer fraction questions with a fraction answer, Answer decimal questions with a decimal answer.
- Reduce fractions to the simplest form. ie:  $\frac{30}{12} = \frac{10}{4} = 2\frac{2}{4} = 2\frac{1}{2}$

### Addition:

$$\begin{array}{r} 1.) \quad 575 \\ \quad 220 \\ \quad 934 \\ + \quad 18 \\ \hline \end{array}$$

$$\begin{array}{r} 2.) \quad 375 \\ \quad 948 \\ \quad 22 \\ + \quad 659 \\ \hline \end{array}$$

### Subtraction:

$$\begin{array}{r} 3.) \quad 52495 \\ \quad - 2988 \\ \hline \end{array}$$

$$\begin{array}{r} 4.) \quad 658 \\ \quad - 395 \\ \hline \end{array}$$

Multiplication:

$$\begin{array}{r} 5.) \quad 648 \\ \times \quad 2.45 \\ \hline \end{array}$$

$$\begin{array}{r} 6.) \quad 37.28 \\ \times \quad .92 \\ \hline \end{array}$$

$$\begin{array}{r} 7.) \quad .576 \\ \times \quad .05 \\ \hline \end{array}$$

$$\begin{array}{r} 8.) \quad 2.035 \\ \times \quad 785 \\ \hline \end{array}$$

Division :

$$9.) \quad 3 \overline{) 3902.00}$$

$$10.) \quad 220 \overline{) 2425.00}$$

Division – Answer in feet and inches.

$$11.) \quad 8 \overline{) 34 \text{ ft. } 8 \text{ in.}}$$

Division – Answer in gallons and quarts.

$$12.) \quad 3 \overline{) 10 \text{ gallons } 11 \text{ quarts}}$$

$$1 \text{ gal.} = 4 \text{ quarts}$$

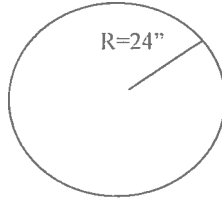
Written Problems:

- 13.) At \$29.12 per hour, how much money will you earn in  $39 \frac{1}{2}$  hours?
- 14.) One meter is equal to 3.28 feet. How many feet are there in 30 meters?
- 15.) If one kilometer is equivalent to .6 miles, how many kilometers would you have traveled if you went 42 miles?
- 16.) A British Thermal Unit (BTU) is the amount of heat required to raise one (1) pound of water one (1) degree Fahrenheit. How many BTU's would be required to raise 45 pounds of water 18 degrees Fahrenheit?
- 17.) A column of water 2.31 feet high exerts a pressure of one (1) pound per square inch. How much pressure does a column of water 46.20 feet high exert?

18.) In figure #1, what is the circumference of the circle?

$$\text{Circumference} = \pi \times \text{dia.}$$

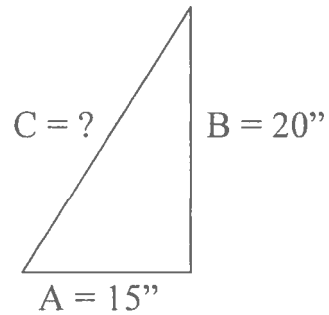
Fig. #1



19.) What is the area of figure #1?  $\text{Area} = \pi \times R^2$

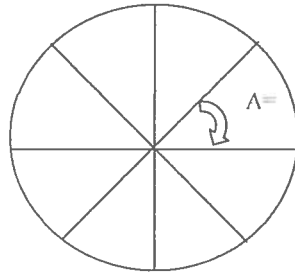
20.) Using the formula  $C^2 = A^2 + B^2$ , what is the length of side C in figure #2?

Figure #2



- 21.) The circle “figure #3” is divided into eight (8) equal parts. What is angle of the section marked A?

Figure #3



- 22.) Find the value of “X” in the equation  $5X + 20 = 4X + 30$ .

- 23.) Find the value of “X” in the equations:

a.)  $X - 40 = 60$

b.)  $6X - 52 = 4X + 40$

## FRACTIONS

### Addition

$$\begin{array}{r} 24.) \quad 6 \frac{5}{32} \\ \quad + 7 \frac{1}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 25.) \quad 13 \frac{1}{8} \\ \quad + 6 \frac{1}{2} \\ \hline \end{array}$$

### Subtract:

$$\begin{array}{r} 26.) \quad 5 \frac{3}{8} \\ \quad - 3 \frac{3}{4} \\ \hline \end{array}$$

$$\begin{array}{r} 27.) \quad 19 \\ \quad - 5 \frac{5}{32} \\ \hline \end{array}$$

### Multiply:

$$28.) \quad \frac{1}{4} \times 28 =$$

$$29.) \quad 4 \frac{3}{4} \times \frac{1}{2} =$$

### Divide:

$$30.) \quad 32 \div \frac{3}{8} =$$

$$31.) \quad \frac{3}{4} \div \frac{1}{4} =$$

Addition:

$$\begin{array}{r} 32.) \quad 4.2015 \\ \quad \quad .628 \\ + 14.5215 \\ \hline \end{array}$$

$$\begin{array}{r} 33.) \quad .85 \\ \quad \quad 33.95 \\ + 26.751 \\ \hline \end{array}$$

Subtract:

$$\begin{array}{r} 34.) \quad 72.645 \\ - \quad 3.999 \\ \hline \end{array}$$

$$\begin{array}{r} 35.) \quad 762.95 \\ - 431.26 \\ \hline \end{array}$$

Multiplication:

$$\begin{array}{r} 36.) \quad 62.92 \\ \quad \times .544 \\ \hline \end{array}$$

$$\begin{array}{r} 37.) \quad 27.924 \\ \quad \times .28 \\ \hline \end{array}$$

$$\begin{array}{r} 38.) \quad .426 \\ \quad \times 200 \\ \hline \end{array}$$

Divide:

$$39.) \quad .20 \overline{) 8.240}$$

$$40.) \quad 6.2 \overline{) 28.7250}$$

Express As A Percentage:

41.)  $.25 =$  \_\_\_\_\_

$.46 =$  \_\_\_\_\_

Express In Decimal Form:

42.)  $35\% =$  \_\_\_\_\_

$225\% =$  \_\_\_\_\_

Find The Value Of:

43.)  $25\%$  of  $250 =$  \_\_\_\_\_

$.25\%$  of  $300 =$  \_\_\_\_\_

Find The Missing Percentages:

44.)  $40 =$  \_\_\_\_\_  $\%$  of  $50$

$2 =$  \_\_\_\_\_  $\%$  of  $50$

45.) What is the interest on \$ 38,925.00 for one (1) year at  $5 \frac{1}{2}$  percent interest?

46.) Using the formula  $\text{Fahrenheit} = \frac{9}{5} \text{C} + 32$ , what is the Fahrenheit temperature of a liquid with a centigrade temperature of 80 degrees?



47.) Using the formula  $V/V^1 = P^1/p$  find the value of "V" when "P" = 4,  $P^1 = 6$  and  $V^1 = 8$ .

48.) The specific weight of an object can be found using the formula:

$$\text{Specific Weight} = \frac{A}{C - W}$$

What is the specific weight of an object when  $A = 25$ ,  $W = 3.75$  and  $C = 6.25$ ?

49.) What is the smallest unit of measurement shown on the ruler?



50.) What is the measurement shown by bracket #1?

