

# Newcomer Math Diagnostic Worksheet (Informal)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Addition

*Answer the questions. Show your work.*

$$\begin{array}{r} 2 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ + 10 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ + 0 \\ \hline \end{array}$$

$$\begin{array}{r} 24 \\ + 16 \\ \hline \end{array}$$

$$\begin{array}{r} 22 \\ + 40 \\ \hline \end{array}$$

$$\begin{array}{r} 33 \\ + 25 \\ \hline \end{array}$$

$$\begin{array}{r} 46 \\ + 27 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ + -5 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ + -9 \\ \hline \end{array}$$

## Subtraction

*Answer the questions. Show your work.*

$$\begin{array}{r} 9 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 25 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 32 \\ - 13 \\ \hline \end{array}$$

$$\begin{array}{r} 32 \\ - 0 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ - 63 \\ \hline \end{array}$$

$$\begin{array}{r} -5 \\ - 12 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - -3 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - -8 \\ \hline \end{array}$$

## Multiplication

Answer the questions. Show your work.

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} -3 \\ \times 13 \\ \hline \end{array}$$

$$\begin{array}{r} -32 \\ \times -2 \\ \hline \end{array}$$

## Division

Answer the questions. Show your work.

$$\begin{array}{r} 16 \\ \div 4 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ \div 5 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \div 1 \\ \hline \end{array}$$

$$\begin{array}{r} 54 \\ \div 9 \\ \hline \end{array}$$

$$\begin{array}{r} 93 \\ \div 3 \\ \hline \end{array}$$

$$\begin{array}{r} 32 \\ \div 8 \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ \div 15 \\ \hline \end{array}$$

$$\begin{array}{r} 84 \\ \div 21 \\ \hline \end{array}$$

$$\begin{array}{r} -16 \\ \div 2 \\ \hline \end{array}$$

$$\begin{array}{r} -72 \\ \div -6 \\ \hline \end{array}$$

## Long Division

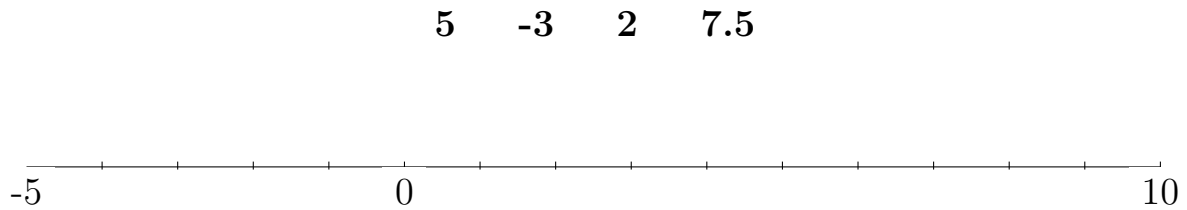
Answer the questions. Show your work.

$$4 \overline{)260}$$

$$5 \overline{)735}$$

## Number Line

Put the numbers in the correct location on the number line.



Number Line

## Simplifying Fractions

Simplify the fractions. Show your work.

$$\frac{6}{12} =$$

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

$$\frac{7}{14} =$$

$$\frac{-6}{12} =$$

$$\frac{12}{132} =$$

$$\frac{-18}{-9} =$$

## Math with Fractions

Find the answer to each question. Show your work.

$$\frac{2}{3} + \frac{1}{3} =$$

$$\frac{1}{2} \times \frac{1}{2} =$$

$$\frac{3}{5} + \frac{4}{5} =$$

$$\frac{2}{3} \times \frac{3}{4} =$$

$$\frac{3}{4} - \frac{1}{4} =$$

$$\frac{-5}{6} \div \frac{3}{-4} =$$

$$\frac{1}{2} - \frac{1}{3} =$$

$$\frac{7}{12} \div \frac{3}{16} =$$

## Vocabulary

Write the number of the terms or examples next to the correct vocabulary word.  
Each term or example will be used only 1 time.

### Term / Example

1. subtraction (−)

3.  $a \times a$  or  $a^2$

5. division ( $\div$ )

2. addition (+)

4. multiplication ( $\times$ )

6.  $\sqrt{a}$

### Vocabulary Words

\_\_\_\_\_ difference

\_\_\_\_\_ quotient

\_\_\_\_\_ square

\_\_\_\_\_ product

\_\_\_\_\_ square root

\_\_\_\_\_ sum

## Factoring

Factor the terms below. Show your work.

$$25 = \underline{\quad} \times \underline{\quad}$$

$$45 = \underline{\quad} \times \underline{\quad} \times \underline{\quad}$$

$$12 = \underline{\quad} \times \underline{\quad} \times \underline{\quad}$$

$$2x^2 = \underline{\quad} \times \underline{\quad} \times \underline{\quad}$$

$$x^2 + 3x + 2 = (\underline{\quad} + \underline{\quad})(\underline{\quad} + \underline{\quad})$$

## Algebra

Solve for the variable in the questions below.

$$x + 10 = 25. \text{ What is } x?$$

$$3y - 13 = 8. \text{ What is } y?$$

$$6a + 8 = 3a - 10. \text{ What is } a?$$

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