

KENTUCKY ADULT EDUCATION – STUDENT GUIDE

Standards for Mathematics Level 3

Use Math to Solve Problems and Communicate

Student Name _____

Entry Date _____ Site _____

Recognize and Compare Numbers

The adult student is able to:

___ Identify and work with *place values*: ones place through millions place

Identify and work with common *fractions* and their equals: ___ halves ___ thirds ___ fourths ___ fifths
___ eighths ___ tenths

Find examples of: ___ *proper fractions*
___ *improper fractions*
___ *mixed numbers*

___ Identify and work with *place values* for *decimals*: tenths place through ten thousandths

___ Name examples of *fractions*, *decimals*, and *percents* that equal each other

___ Find examples of *positive* and *negative numbers*

Rounding and Estimation

The adult student is able to:

___ Round whole numbers to the nearest tens, hundreds, thousands, ten-thousands, or hundred-thousands place

___ Round *decimals* to the nearest whole number, tenths, hundredths, or thousandths place

___ Estimate answers to problems by rounding numbers

Number Theory and Mathematical Symbols

The adult student is able to:

Describe and use: ___ *prime* numbers
___ *composite* numbers
___ *factors*
___ *multiples*

___ Check answers using *inverse operations*

___ Use the % to show hundredths

___ Use algebra signs to show multiplication

___ Use the *exponent* signs ² (squared) and ³ (cubed) for repeated multiplication

___ Use the = and ≠ signs in number sentences

Mathematical Operations

The adult student is able to:

___ Add and subtract numbers up to 10,000,000

___ Reduce *fractions* to their simplest form

___ Compare *fractions* by making them *equivalent fractions*

___ Add *fractions* with like and unlike *denominators*

___ Subtract *fractions* with like and unlike *denominators*

___ Add and subtract *decimals* up to the 4 places

___ Count and make change using all U.S. coins and currency

___ Recall and state times tables through 12 x 12

___ Do long division, showing remainders

___ Multiply and divide *decimals* up to 2 places

___ Solve word problems using addition, subtraction, multiplication or division

Measurements

The adult student is able to:

- ___ Solve problems using tools to measure length, width, time and temperature in units of $\frac{1}{2}$ and $\frac{1}{4}$
- ___ Solve problems with changes in time (hours and minutes; AM, PM; 24-hour clock)
- ___ Compare *inches* and *centimeters*
- ___ Use abbreviations for *linear units* to describe *perimeter*
- ___ Use abbreviations for *square units* to describe *area*

Geometry

The adult student is able to:

Name and describe types of *plane* figures:

- ___ *circles* ___ *triangles* ___ *quadrilaterals*

Name and describe types of *solid* figures:

- ___ *rectangular containers* ___ *cylinders* ___ *pyramids*
- ___ *cones* ___ *spheres*

- ___ Describe and compare figures in everyday terms
- ___ Find the line of *symmetry* in figures
- ___ Describe and find *right angles*
- ___ Find the *perimeter* and *area* of any *rectangle*
- ___ Draw figures by turning them in a different direction on graph paper
- ___ Draw figures by moving them to a different place on graph paper
- ___ Draw figures by flipping them to a different place on graph paper

Ratios, Proportions and Percents

The adult student is able to:

- ___ Write *ratios* found in word problems
- ___ Find common *percentages* (10%, 25%, 50%, 75%) when the part and whole are given

Data Interpretation and Probability

The adult student is able to:

- ___ Describe a *line graph*
- ___ Describe a *bar graph*
- ___ Describe a *pie chart* or *circle graph*
- ___ Tell how information is arranged in a *table*
- ___ Collect data and display it in graph form
- ___ Explain and find the *mean* for a set of data
- ___ Explain and find the *median* for a set of data
- ___ Explain and find the *mode* for a set of data
- ___ Explain and find the *range* for a set of data
- ___ Write *probability* as a *ratio*

Number Line and Grids

The adult student is able to:

- ___ Place positive and negative numbered points on a number line
- ___ Use compass rose on a map as reference for directions
- ___ Find places on a map using *latitude* and *longitude* coordinates

Algebra

The adult student is able to:

- ___ Find missing numbers or shapes in a *pattern*
- ___ Explain the *pattern* in an *in-out table*
- ___ Explain the use of *variables*
- ___ Write word problems as number sentences
- ___ Solve for the unknown in a number sentence
- ___ Substitute numbers for letters to use *formulas* or to solve *equations*