

# KYAE STANDARDS for MATHEMATICS

## Level 3 Student Glossary

**angle** *the space between two lines that meet at an endpoint*

**area** *the amount of space inside the boundary of a flat object*

**bar graph** *see appendix*

**centimeter** *metric unit of length equal to one hundredth of a meter*

**circle**  *2-dimensional figure formed by a curved line surrounding a center point*

**circle graph** *see appendix*

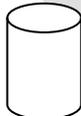
**columns** *things in an up and down line (vertical)*

**commutative property** *rule that says the order of numbers being added or multiplied will not change the answer*

**composite numbers** *numbers that can be divided evenly by other numbers*

**cone**  *3-dimensional figure with a circular base and sides that meet at a point*

**cube**  *a 6-sided figure where each side is the same-sized square*

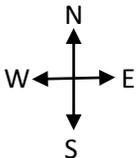
**cylinder**  *3-dimensional figure with 2 same-size circular bases and straight sides*

**decimal** *a way to write a fraction that uses a dot. Decimals are commonly used with money: **.52** means 52 cents or 52/100*

**decimal place values** *places to the right of a decimal point (tenths, hundredths, thousandths, ten-thousandths)*

**decimal point** *a dot that separates whole amounts from fractional amounts of a number. When reading a number with a decimal, read the decimal point as "and." EX: \$3.52 is read "three dollars and fifty-two cents"*

**denominator** *the bottom number of a fraction*

**directions**  *primary directions: N,S, E, W*

secondary directions: NE, NW, SE, SW,

**Distributive Property**  $a(b + c)$  is the same as  $ab + ac$ , and  $a(b - c)$  is the same as  $ab - ac$

**divided by**  $\div$ ,  $\overline{)}$  EX:  $9 \div 3$  is 3 into 9 or  $3 \overline{)9}$

**equation** a number sentence using an equals sign to say that two amounts have the same value

**equivalent fractions** fractions that name the same amount ( $1/2 = 3/6$ )

**exponent** a small raised number at the right of a base number (3 in  $4^3$ ) that tells how many times the base number is multiplied by itself ( $4 \times 4 \times 4$ )

**factor** one of two or more numbers that when multiplied together give a particular number

**formula** math rule using symbols, numbers or letters

**fraction** part of a whole

**greater than**  $>$

**horizontal** level or flat; a side to side direction 

**improper fraction** fraction with a value equal to or greater than one, e.g.  $1\frac{1}{5}$

**in-out table** a table with inputs and outputs that follow a rule

**inch** unit of length equal to  $1/12^{\text{th}}$  of a foot

**inverse operation** the opposite operation; addition and subtraction are inverse operations because one undoes the other

**latitude** imaginary circles running around the Earth

**less than**  $<$

**line graph** see appendix

**linear units** measurements of length

**longitude** imaginary circles around the Earth running through the North and South Poles

**mathematical symbols** signs used for math words, such as  $+$ ,  $-$ ,  $\times$ ,  $\div$ ,  $\overline{)}$ ,  $=$ ,  $\neq$ ,  $\%$ ,  $<$ ,  $>$ ,  $^2$  and  $^3\sqrt{\quad}$ .

**mean** the average of a set of numbers

**median** the middle number when numbers in a set are put in order

**mixed number** an amount written as a whole number and a fraction ( $7\frac{3}{4}$ )

**mode** the number that occurs most often in a list

**multiple** a number that can be divided exactly by a particular smaller number

**negative number** a number that is less than zero

**numerator** the top number of a fraction

**pattern** a repeated arrangement of numbers, objects, shapes, etc.

**percent %** a given part in every hundred (12/100 is 12%)

**perimeter** the distance around the edge of a shape

**pie chart** see circle graph in appendix

**place value** the value of where the digit is in the number, such as units, tens, hundreds, etc.

**plane figures** any 2-dimensional figure

**positive number** a number that is greater than zero

**prime number** a positive number that can only be divided evenly by 1 or itself

**probability** the chance of something happening

**proper fraction** a fraction with a value less than 1

**Property of One** any number  $\times 1$  is the same number; any number  $\div 1$  is the same number

Ex:  $5 \times 1 = 5$  or  $3 \div 1 = 3$

**Property of Zero** zero added or subtracted from any number does not change that number; zero times any number is zero; zero divided by any number is zero

**Pyramid**  a 3-dimensional figure with a square base and four equal triangular sides that meet at a point

**quadrilateral** a 2-dimensional figure with four sides

**range** the difference between the lowest and highest number in a set

**ratio** a comparison of two numbers written either as a fraction, with a colon :, or using the word 'to'

**rectangle**  a 2-dimensional figure formed of 4 sides with 4 right angles

**right angle** (L) an angle that makes a square corner; right angles measure  $90^\circ$

**sphere** a 3-dimensional figure in which all points are the same distance from the center, such as a globe or a ball

**square**  a 2-dimensional figure with 4 right angles and 4 equal sides

**square units** a measurement of area

**squaring** multiplying a number by itself, usually shown as the number and the exponent  $^2$  ( $3^2$ )

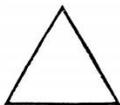
**substitution** putting numbers where the letters are in an equation

**symmetry** *having two halves that are mirror images of each other*

**table** *see appendix*

**three-dimensional** *having height, width, and depth EX: any object in the real world*

**triangle** *a 2-dimensional three-sided figure*



**two-dimensional** *having length and width, but no thickness EX: squares, rectangles, triangles, and circles have two dimensions*

**variable** *a letter used to represent an unknown amount*

**vertical** *in an up and down direction*



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## APPENDIX

### TABLE

**table** a display of data organized in rows and columns

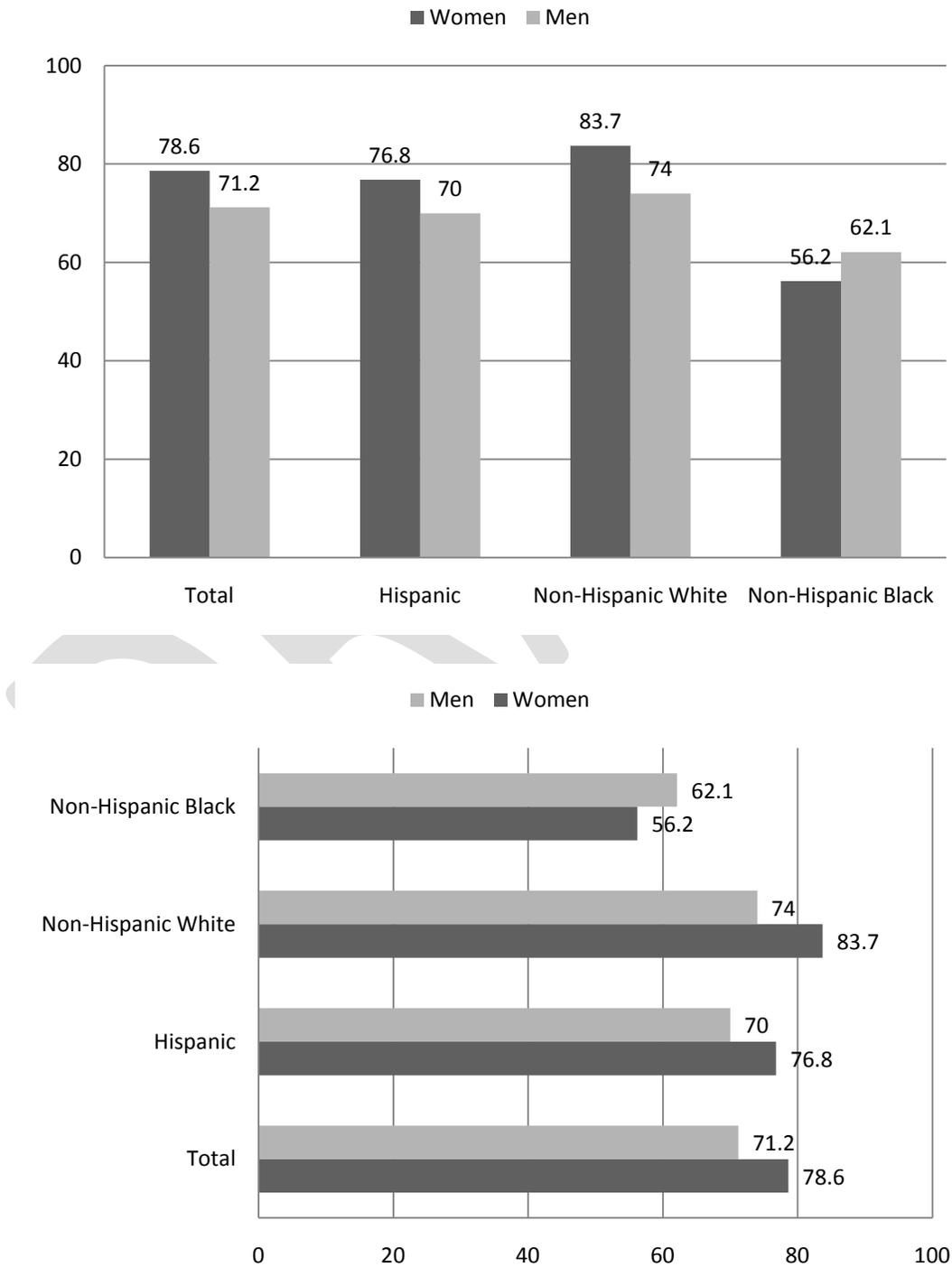
<b>Calories Used per Hour in Common Physical Activities</b>		
<b>Moderate Physical Activity</b>	<b>Approximate Calories / 30 minutes for a 154 lb person<sup>1</sup></b>	<b>Approximate Calories / 1 hour for a 154 lb person<sup>1</sup></b>
Hiking	185	370
Light Gardening/Yard Work	165	330
Dancing	165	330
Golf (walk and carrying clubs)	165	330
Bicycling (<10 mph)	145	290
Walking (3.5 mph)	140	280
Weight Lifting (general light workout)	110	220
Stretching	90	180
<b>Vigorous Physical Activity</b>	<b>Approximate Calories / 30 minutes for a 154 lb person<sup>1</sup></b>	<b>Approximate Calories / 1 hour for a 154 lb person<sup>1</sup></b>
Running/jogging (5 mph)	295	590
Bicycling (>10 mph)	295	590
Swimming (slow freestyle laps)	255	510
Aerobics	240	480
Walking (4.5 mph)	230	460
Heavy Yard Work (chopping wood)	220	440
Weight Lifting (vigorous effect)	220	440
Basketball (vigorous)	220	440
<sup>1</sup> Calories burned per hour will be higher for persons who weigh more than 154 lbs (70 kg) and lower for persons who weigh less. Source: Adapted from Dietary Guidelines for Americans 2005, page 16, Table 4 ( <a href="http://www.health.gov/dietaryguidelines/dga2005/document/html/chapter3.htm#table4">http://www.health.gov/dietaryguidelines/dga2005/document/html/chapter3.htm#table4</a> ).		

# GRAPHS

**graphs** diagrams showing the relationship of quantities, e.g. bar graphs, line graphs, circle or pie graphs:

**bar graph** graph that displays data using horizontal or vertical bars to compare numbers

Percentage of men and women 25-44 years of age who have ever been married, by race and Hispanic origin: United States, 2002

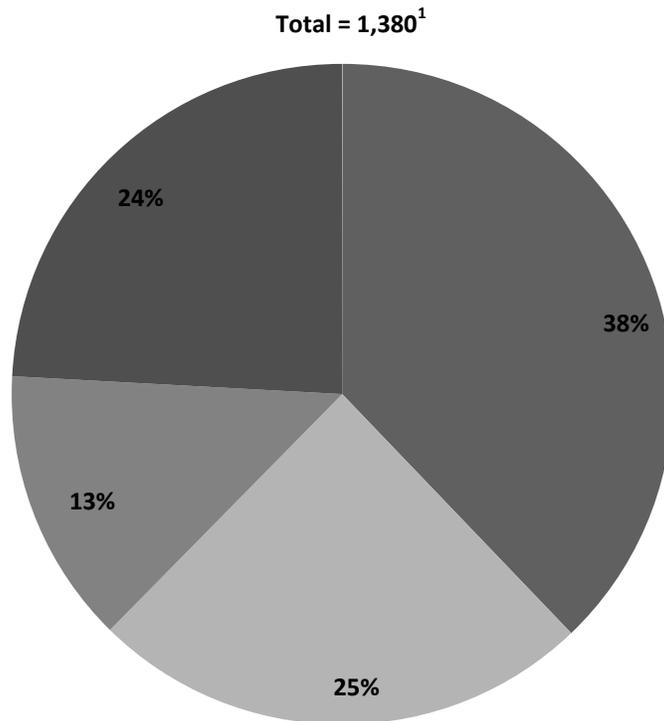


Source: CDC/NCHS, National Survey of Family Growth, Cycle 6

**circle graph** also called **pie chart**, graph that shows a whole amount (100%) divided into parts

### Department of Defense Manpower - 2007

(in thousands)

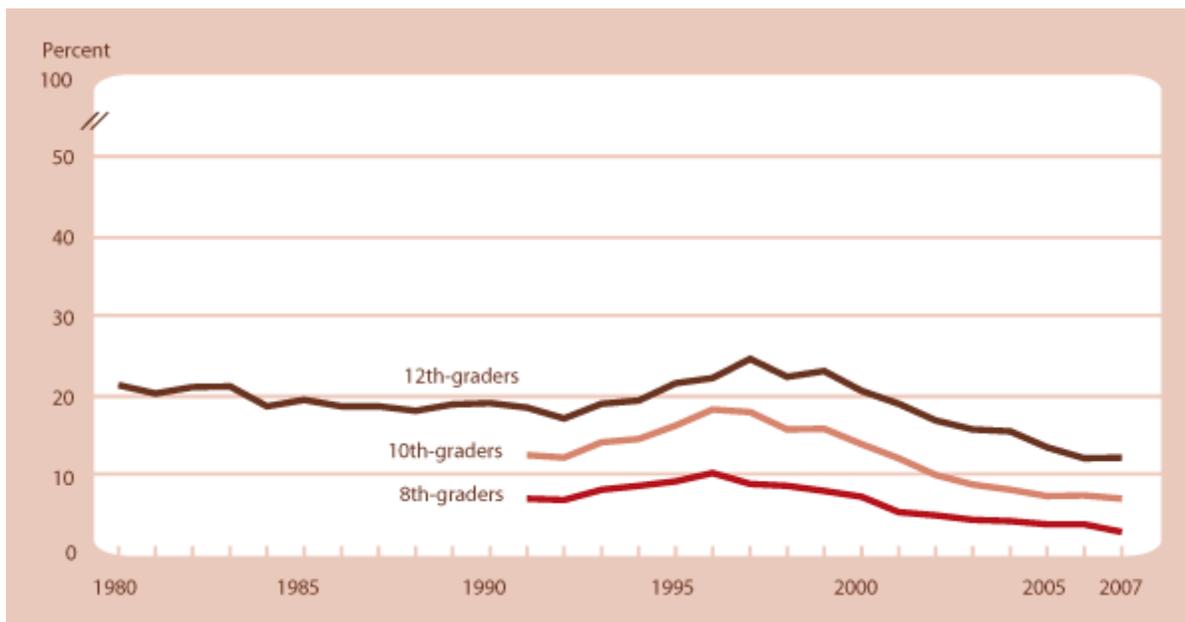


<sup>1</sup> Includes National Guard, Reserve, and retired personnel on extended or continuous active duty. Excludes Coast Guard.

Source: Chart prepared by U.S. Census Bureau. Statistical Abstract of the United States: 2009

**line graph** *graph that uses a line or lines to show changes over time*

Figure 10 Percentage of 8th-, 10th-, and 12th-grade students who reported smoking cigarettes daily over the past 30 days by grade, 1980–2007



SOURCE: National Institutes of Health, National Institute on Drug Abuse, [Monitoring the Future Survey](#).

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