

**The
University of
Chicago
School
Mathematics
Project**

**Pre-Transition
Mathematics**

Correlated to
Pennsylvania Mathematics
Assessment Anchors and
Eligible Content

Grade 6



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Pennsylvania Assessment Anchors and Eligible Content	<i>Wright Group/McGraw-Hill Pre-Transition Mathematics</i>
ASSESSMENT ANCHOR	
M6.A.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers, and number systems.	
M6.A.1.1 Express numbers in equivalent forms.	
M6.A.1.1.1 Represent common percents as fractions and/or decimals (e.g., 25% = $\frac{1}{4}$ = .25) – common percents are 1%, 10%, 25%, 50%, 75%, 100%.	PE: 114–119, 127, 367–371 TE: 114–119, 127, 367–371 LM: 2-9A, 2-9B, 6-7A, 6-7B RM: 55, 117, 118 AR: 11–21, 71, 81
M6.A.1.1.2 Convert between fractions and decimals and/or differentiate between a terminating decimal and a repeating decimal.	PE: 110–113, 114–119, 432 TE: 110–113, 114–119, 432 LM: 2-8A, 2-8B, 2-9A, 2-9B, 7-7A, 7-7B RM: 53, 54, 55, 136, 137 AR: 11–21, 89–99
M6.A.1.1.3 Represent a number in exponential form (e.g., $10 \times 10 \times 10 = 10^3$).	PE: 349–354 TE: 349–354 LM: 6-4A, 6-4B RM: 110, 111 AR: 71–81
M6.A.1.1.4 Represent a mixed number as an improper fraction.	PE: 191–194 TE: 191–194 LM: 3-9A, 3-9B RM: 73 AR: 24–34
ASSESSMENT ANCHOR	
M6.A.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers, and number systems.	
M6.A.1.2 Compare quantities and/or magnitudes of numbers.	
M6.A.1.2.1 Compare and/or order whole numbers, mixed numbers, fractions and/or decimals (do not mix fractions and decimals – decimals through thousandths).	PE: 65–68, 121–125 TE: 65–68, 121–125 LM: 2-1A, 2-1B, 2-10A, 2-10B RM: 33, 34, 58, 59 AR: 11–21

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M6.A.1.3 Apply number theory concepts (i.e., factors, multiples).	
M6.A.1.3.1 Find the Greatest Common Factor (GCF) of two numbers (through 50) and/or use the GCF to simplify fractions.	PE: 34–36 TE: 34–36 LM: 1-5A, 1-5B
M6.A.1.3.2 Find the Least Common Multiple (LCM) of two numbers (through 50) and/or use the LCM to find the common denominator of two fractions.	PE: 185, 192–193 TE: 185, 192–193
M6.A.1.3.3 Use divisibility rules for 2, 3, 5 and/or 10 to draw conclusions and/or solve problems.	PE: 405–409 TE: 405–409 LM: 7-2A, 7-2B RM: 126, 127 AR: 89–98
M6.A.1.4.1 Model percents (through 100%) using drawings, graphs and/or sets (e.g., circle graph, base ten blocks, etc).	PE: 114–119 TE: 114–119 LM: 2-9A, 2-B AR: 13, 16, 17
ASSESSMENT ANCHOR	
M6.A.2 Understand the meanings of operations, use operations and understand how they relate to each other.	
M6.A.2.1 Select and/or use operations to simplify or solve problems.	
M6.A.2.1.1 Complete equations by using the following properties: associative, commutative, distributive and identity.	PE: 140–142, 145, 155, 344–346, 377–381 TE: 140–142, 145, 155, 344–346, 377–381 LM: 3-1A, 3-1B, 6-3A, 6-3B AR: 24–34
ASSESSMENT ANCHOR	
M6.A.3 Compute accurately and fluently and make reasonable estimates.	
M6.A.3.1 Apply estimation strategies to a variety of problems.	
M6.A.3.1.1 Use estimation to solve problems involving whole numbers and decimals (up to 2-digit divisors and 4 operations).	PE: 78, 97–102, 367 TE: 78, 97–102, 367 LM: 2-6A, 2-6B RM: 47 AR: 11–21
M6.A.3.2 Solve problems with and without the use of a calculator.	

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M6.A.3.2.1 Solve problems involving operations (+, -, x, ÷) with whole numbers, decimals (through thousandths) and fractions (avoid complicated LCDs) - straight computation or word problems.	<p>PE: 71–75, 77–81, 114–119, 138–143, 144–152, 153–158, 159–164, 184–190, 191–195, 208–213, 214–219, 220–225, 243–248, 328–334, 335–340, 355–360, 367–372, 377–383, 384–389, 400–404, 405–410, 417–422, 423–426, 427–431, 438–441, 442–447, 462–466, 472–476, 477–482, 494–497</p> <p>TE: 71–75, 77–81, 114–119, 138–143, 144–152, 153–158, 159–164, 184–190, 191–195, 208–213, 214–219, 220–225, 243–248, 328–334, 335–340, 355–360, 367–372, 377–383, 384–389, 400–404, 405–410, 417–422, 423–426, 427–431, 438–441, 442–447, 462–466, 472–476, 477–482, 494</p> <p>LM: 2-2A, 2-2B, 2-3A, 2-3B, 2-9A, 2-9B, 3-1A, 3-1B, 3-2A, 3-2B, 3-3A, 3-3B, 3-4A, 3-4B, 3-8A, 3-8B, 3-9A, 3-9B, 4-1A, 4-1B, 4-2A, 4-2B, 4-3A, 4-3B, 4-7A, 4-7B, 6-1A, 6-1B, 6-2A, 6-2B, 6-5A, 6-5B, 6-7A, 6-7B, 6-9A, 6-9B, 6-10A, 6-10B, 7-1A, 7-1B, 7-2A, 7-2B, 7-4A, 7-4B, 7-5A, 7-5B, 7-6A, 7-6B, 7-8A, 7-8B, 7-9A, 7-9B, 8-1A, 8-1B, 8-3A, 8-3B, 8-4A, 8-4B, 8-7A, 8-7B</p> <p>RM: 37, 55, 60, 61, 62, 63, 64, 70, 71, 73, 74, 75, 77, 79, 88, 107, 108, 113, 120, 122, 124, 125, 130, 131, 134, 138, 139, 142, 143, 145, 152</p> <p>AR: 11–21, 24–34, 42–52, 71–81, 89–98, 101–111</p>
ASSESSMENT ANCHOR	
M6.B.1 Demonstrate an understanding of measurable attributes of objects and figures, and the units, systems and processes of measurement.	
M6.B.1.1 Compare and/or determine elapsed time.	
M6.B.1.1.1 Determine and/or compare elapsed time to the minute (time may cross AM to PM or more than one day).	<p>Students use knowledge of time measurement in a project activity.</p> <p>PE: 56</p> <p>TE: 56</p>
ASSESSMENT ANCHOR	
M6.B.2 Apply appropriate techniques, tools and formulas to determine measurements.	
M6.B.2.1 Choose or use appropriate tools and/or units to determine measurements within the same system.	

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M6.B.2.1.1 Use or read a ruler to measure to the nearest 1/16 inch or millimeter.	PE: 19–26 TE: 19–26 LM: 1-3A, 1-3B RM: 19, 20 AR: 3–6
M6.B.2.1.2 Choose the more precise measurement of a given object (e.g., smaller measurements are more precise).	PE: 19–26 TE: 19–26 LM: 1-3A, 1-3B RM: 19, 20 AR: 3–6
M6.B.2.1.3 Measure angles using a protractor up to 180° - protractor must be drawn - one side of the angle to be measured should line up with the straight edge of the protractor.	PE: 167–169 TE: 167–169 LM: 3-5B RM: 56 AR: 25, 33
M6.B.2.2 Solve problems involving length, perimeter, area and/or volume of geometric figures.	
M6.B.2.2.1 Find the perimeter of any polygon (may include regular polygons where only the measure of one side is given – same units throughout).	PE: 145–150 TE: 145–150 LM: 3-2A, 3-2B AR: 25, 28
M6.B.2.3 Identify, label, and/or list properties of angles or triangles.	
M6.B.2.3.1 Define, label and/or identify right, straight, acute and obtuse angles.	PE: 237–241 TE: 237–241 LM: 4-6A, 4-6B AR: 42, 45

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ASSESSMENT ANCHOR	
M6.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.	
M6.C.1.1 Define and/or use basic properties of triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons, nonagons, decagons and circles.	
M6.C.1.1.1 Identify, classify and/or compare polygons (up to ten sides.)	PE: 692–697, 699–703, 705–709 TE: 692–697, 699–703, 705–709 LM: 12-4A, 12-4B, 12-5A, 12-5B, 12-6A, 12-6B RM: 218, 219, 220 AR: 158–166
M6.C.1.1.2 Identify and/or describe properties of all types of triangles (scalene, equilateral, isosceles, right, acute, obtuse).-	PE: 682–685 TE: 682–685 LM: 12-2A, 12-2B RM: 213 AR: 158–166
M6.C.1.1.3 Identify and/or determine the measure of the diameter and/or radius of a circle (when one or the other is given).	PE: 173, 535 TE: 173, 535
M6.C.1.1.4 Identify and/or use the total number of degrees in a triangle, quadrilateral and/or circle.	PE: 178–182 LM: 3-7A, 3-7B RM: 68 AR: 24–34
M6.C.1.2 Represent and/or use concepts and relationships of lines and line segments.	
M6.C.1.2.1 Identify, describe and/or label parallel, perpendicular or intersecting lines.	PE: 237, 526, 655–659 TE: 237, 526 LM: 11-5A, 11-5B RM: 205 AR: 146–155
M6.C.1.2.2 Identify, draw and/or label points, planes, lines, line segments, rays, angles and vertices	PE: 165, 237–241, 545 TE: 165, 237–241, 545 LM: 4-6A, 4-6B AR: 42, 45

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ASSESSMENT ANCHOR	
M6.C.2 Identify and/or apply concepts of transformations or symmetry.	
Not assessed at Grade 6.	
ASSESSMENT ANCHOR	
M6.C.3 Locate points or describe relationships using the coordinate plane.	
M6.C.3.1 Identify, plot or match points given an ordered pair.	
M6.C.3.1.1 Plot, locate or identify points in Quadrant I and/or on the x and y axes with intervals of 1, 2, 5 or 10 units - up to a 200 by 200 grid. Points may be in-between lines.	PE: 307–311 TE: 307–311 LM: 5-7A, 5-7B RM: 150 AR: 57, 58, 61, 62, 68
ASSESSMENT ANCHOR	
M6.D.1 Demonstrate an understanding of patterns, relations and functions.	
M6.D.1.1 Create or extend patterns.	
M6.D.1.1.1 Create, extend or find a missing element in a pattern displayed in a table, chart or graph (pattern must show at least 3 repetitions - may use up to 2 operations with whole numbers).	PE: 55, 163, 185, 318 TE: 55, 163, 185, 318
M6.D.1.2 Analyze patterns.	
M6.D.1.2.1 Determine a rule based on a pattern or illustrate a pattern based on a given rule (displayed on a table, chart or graph; pattern must show at least 3 repetitions).	PE: 185, 196, 516–517 TE: 185, 196, 516–517
ASSESSMENT ANCHOR	
M6.D.2 Represent and/or analyze mathematical situations and structures using algebraic symbols, words, tables, and graphs .	
M6.D.2.1 Select and/or use appropriate strategies to solve number sentences.	
M6.D.2.1.1 Identify the inverse operation needed to solve a one-step equation.	PE: 159–163, 468–470 TE: 159–163, 468–470 LM: 3-4A, 3-4B, 8-2A, 8-2B RM: 65

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M6.D.2.1.2 Solve a one-step equation (i.e., using the inverse operation -whole numbers only).	PE: 159–163, 468–470 TE: 159–163, 468–470 LM: 3-4A, 3-4B, 8-2A, 8-2B RM: 65
ASSESSMENT ANCHOR M6.D.2 Represent and/or analyze mathematical situations using numbers, symbols, words, tables and/or graphs.	
M6.D.2.2 Create and/or interpret expressions or equations that model problem situations.	
M6.D.2.2.1 Match an equation or expression involving one variable, to a verbal math situation (one operation only).	PE: 138–139, 249–253, 313–316, 448–451, 483–486 TE: 138–139, 249–253, 313–316, 448–451, 483–486 LM: 7-10A, 7-10B, 8-5A, 8-5B RM: 140, 149 AR: 101–111
ASSESSMENT ANCHOR M6.D.3 Analyze change in various contexts.	
Not assessed at Grade 6.	
ASSESSMENT ANCHOR M6.D.4 Describe or use models to represent quantitative relationships.	
Not assessed at Grade 6.	
ASSESSMENT ANCHOR M6.E.1 Formulate questions that can be addressed with data and/or collect, organize, display, and analyze data.	
M6.E.1.1 Interpret data shown in frequency tables, histograms, circle, bar or double bar graphs, line or double line graphs or line plots.	
M6.E.1.1.1 Analyze data and/or answer questions pertaining to data represented in frequency tables, circle graphs, double bar graphs, double line graphs or line plots (for circle graphs, no computation with percents).	PE: 289–293, 295–300, 301–306, 318 TE: 289–293, 295–300, 301–306, 318 LM: 5-4A, 5-4B, 5-5A, 5-5B, 5-6A, 5-6B RM: 101, 102, 103, 104 AR: 55–68
M6.E.1.1.2 Choose the appropriate representation for a specific set of data (choices should be the same type of graph).	PE: 128, 291, 318 TE: 128, 291, 318

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M6.E.1.1.3 Display data in frequency tables, circle graphs, double-bar graphs, double line graphs or line plots using a title, appropriate scale, labels and a key when needed. Circle graphs for open-ended items must show a center point and tic marks.	PE: 128, 292, 300 TE: 128, 291, 200
ASSESSMENT ANCHOR	
M6.E.2 Select and use appropriate statistical methods to analyze data.	
M6.E.2.1 Describe data sets using mean, median, mode and/or range.	
M6.E.2.1.1 Determine/calculate the mean, median, mode and/or range of displayed data (data can be displayed in a table or line plot – use whole numbers only up to 2 digits).	PE: 272–276 TE: 272–276 LM: 5-1A, 5-1B RM: 95 AR: 55–68
ASSESSMENT ANCHOR	
M6.E.3 Understand and apply basic concepts of probability.	
M6.E.3.1 Determine all possible combinations, outcomes and/or calculate the probability of a simple event.	
M6.E.3.1.1 Define and/or find the probability of a simple event (express as a fraction in lowest terms).	PE: 591–595, 597–602, 603–608 TE: 591–595, 597–602, 603–608 LM: 10-2A, 10-2B, 10-3A, 10-3B, 10-4A, 10-4B RM: 182, 183, 184, 185, 188, 189, 190, 191 AR: 133–143
M6.E.3.1.2 Determine/show all possible combinations involving no more than 20 total arrangements (e.g., tree diagram, table, grid).	PE: 586–589, 597–602 TE: 586–589, 597–602 LM: 10-1A, 10-1B, 10-3A, 10-3B RM: 181, 186 AR: 135, 138, 139, 143
ASSESSMENT ANCHOR	
M6.E.4 Develop and/or evaluate inferences and predictions or draw conclusions based on data or data displays.	
Not assessed at Grade 6.	

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