7th Grade Mathematics
2016-17

The following learning targets represent the major concepts studied and assessed in this course.

Semester 1

Unit 1
1. Apply and extend previous understanding of rational numbers to the system of real numbers.
2. Solve real world problems with addition and subtraction of rational numbers using a number line.
3. Convert a rational number to a decimal using long division (terminating or repeating).
4. Utilize the properties of absolute value in addition and subtraction problems.

Unit 2
5. Solve problems with addition and subtraction of rational numbers.
6. Solve problems with multiplication and division of rational numbers.
7. Solve mathematical problems with the four operations using integers (order of operations).

Unit 3
8. Apply properties of operations to simplify, factor, and expand linear expressions with rational coefficients.
9. Use properties of operations to generate equivalent expressions and write the expressions in different formats.
10. Solve real-life and mathematical problems using algebraic expressions.

Unit 4
11. Solve algebraic equations [px + q = r and p(x + q) =r] fluently.
12. Construct an algebraic equation to solve real-world problems.

Semester 2

Unit 4
(continued)
13. Solve algebraic inequalities and graph the solution set.
14. Construct an inequality to solve real-world problems.

Unit 5
15. Compute the unit rate from a word problem.
16. Use proportional relationships to solve multi-step percent problems.
17. Identify if a table, equation, and/or graph is directly proportional and identify the constant of proportionality.
18. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation.

Unit 6
19. Solve problems by applying facts about supplementary, complementary, vertical and adjacent angles to find an unknown angle in a figure.
20. Solve problems that use the formulas for the area and circumference of a circle.

Unit 7
21. Solve problems involving scale factor of geometric figures and scale drawings.
22. Construct geometric figures using a compass, a protractor, and a straight edge. (triangles and quadrilaterals)

Unit 8
23. Solve real world problems involving area of two dimensional shapes.
24. Solve real world problems involving surface area of three dimensional shapes.
25. Solve real world problems involving volume of three dimensional shapes.
26. Identify the cross-section of 3-D figures.

Unit 9
27. Use measures of center and measures of variability to draw inferences about two populations.
28. Identify the visual overlap (similarities and differences) in a graphical representation.

Unit 10
29. Find the probability of a chance event and describe the likelihood of that occurring.
30. Identify the outcome of events and sample space by collecting data using an unbiased sample.