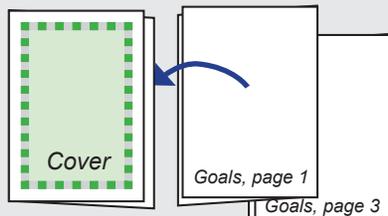## Common Core Standards for Mathematical Practice

MP1: Make sense of problems and persevere in solving them.

MP2: Reason abstractly and quantitatively.

MP3: Construct viable arguments and critique the reasoning of others.

MP4: Model with mathematics.

MP5: Use appropriate tools strategically.

MP6: Attend to precision.

MP7: Look for and make use of structure.

MP8: Look for and express regularity in repeated reasoning.

Making a Leaflet

Fold all three sheets in half as shown. Put goal pages 1-4 within cover sheet and staple along left edge.

Cover

Goals, page 1

Goals, page 3

Name_____

COMMON CORE STATE STANDARDS

Grade 8 Math

Goals Checklist

$7.08 \div 1{,}000$

$\sqrt{121}$

x y

$-x - 4 = -12$

25 24 7
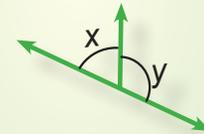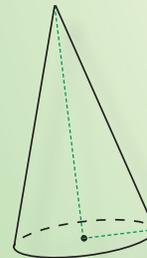
2^{-3}
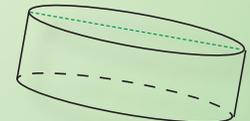
Courtesy of K8 Math Sense for 2022-2023

Grade 8 CCSS Math Goals

Name _____

Class _____ Date _____

For each goal that has been mastered, mark the box and write the date.

EXPRESSIONS AND EQUATIONS

1 Work with radicals and integer exponents.

1. I can simplify and evaluate numerical expressions with integer exponents. ☐ ____

2. I can develop and apply properties of exponents. ☐ ____

3. I can use square root and cube root symbols. ☐ ____

4. I can evaluate square roots and cube roots. ☐ ____

5. I can convert between standard notation and scientific notation. ☐ ____

6. I can use scientific notation to compare relative sizes of numbers. ☐ ____

7. I can perform operations on numbers in scientific notation. ☐ ____

8. I can use scientific notation to solve problems. ☐ ____

9. I can convert measurement results to appropriate units. ☐ ____

2 Understand the connections between proportional relationships, lines, and linear equations.

1. I can graph proportional relationships. ☐ ____

2. I can compare two representations of a proportional relationship. ☐ ____

3. I can use similar triangles to verify that a line has constant slope. ☐ ____

4. I can relate linear equations to slopes and intercepts. ☐ ____

3 Analyze and solve linear equations and pairs of simultaneous linear equations.

1. I can simplify and solve linear equations by writing equivalent forms. ☐ ____

2. I can identify or write equations with 0, 1, or infinitely many solutions. ☐ ____

3. I can simplify and solve linear equations with rational coefficients. ☐ ____

4. I can identify the solution to a system of two linear equations as the intersection point. ☐ ____

5. I can solve systems of two linear equations algebraically. ☐ ____

6. I can estimate the solution to two linear equations by graphing. ☐ ____

7. I can solve problems involving systems of two linear equations. ☐ ____

4 **FUNCTIONS** Define, evaluate, and compare functions.

1. I can understand that a function is a rule. ☐ ____

2. I can compare two representations of a function. ☐ ____

3. I can decide if a function is linear or non-linear. ☐ ____

5 **FUNCTIONS** Use functions to model relationships between quantities.

1. I can identify rate of change from a graph, table, or description. ☐ ____

2. I can identify initial value of a function from a graph, table, or description. ☐ ____

3. I can write a function from the rate of change and initial value. ☐ ____

4. I can describe features of a non-linear function from its graph. ☐ ____

5. I can sketch a graph from a verbal description of its features. ☐ ____
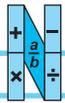
THE NUMBER SYSTEM

1 Know that there are numbers that are not rational, and approximate them by rational numbers.

1. I can identify rational and irrational numbers. ☐ ____

2. I can convert repeating decimals to rational numbers. ☐ ____

3. I can find approximations for irrational numbers. ☐ ____

GEOMETRY

1 Understand congruence and similarity using physical models, transparencies, or geometry software.

1. I can identify congruent parts in rotations, reflections, and translations. ☐ ____

2. I can identify transformations that move a figure onto a congruent figure. ☐ ____

3. I can use coordinates to describe translations, reflections, and rotations. ☐ ____

4. I can use coordinates to describe dilations. ☐ ____

5. I can compare ratios of side lengths to decide if two figures are similar. ☐ ____

6. I can identify the scale factor that enlarges or reduces a figure to match a similar figure. ☐ ____

7. I can identify transformations that move a figure onto a similar figure. ☐ ____

8. I can justify and calculate angle measures in triangles and line figures. ☐ ____

9. I can justify the angle-angle criterion of similar triangles. ☐ ____

2 Understand and apply the Pythagorean Theorem.

1. I can explain a proof of the Pythagorean Theorem and its converse. ☐ ____

2. I can use the Pythagorean Theorem to find lengths. ☐ ____

3. I can use the Pythagorean Theorem to find distance between points. ☐ ____

3 Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

1. I can apply the formula for volume of a cone. ☐ ____

2. I can apply the formula for volume of a cylinder. ☐ ____

3. I can apply the formula for volume of a sphere. ☐ ____

4. I can apply formulas to find volumes of combined solids. ☐ ____

STATISTICS AND PROBABILITY

1 Investigate patterns of association in bivariate data.

1. I can construct scatter plots. ☐ ____

2. I can interpret scatter plots. ☐ ____

3. For data that appear to be linear, I can estimate a line of best fit. ☐ ____

4. I can informally assess the fit of a linear model. ☐ ____

5. I can interpret a linear model for real-world data. ☐ ____

6. I can compare frequencies and relative frequencies from two-way tables. ☐ ____