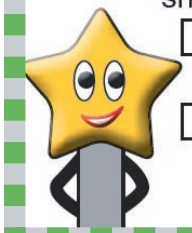
Math Practices Checklist

- ☐ **1.** I don't give up easily.
- ☐ **2.** I know how to use symbols when solving problems.
- ☐ **3.** I give very good explanations.
- ☐ **4.** I can write or draw models for problems.
- ☐ **5.** I know how to choose and use math tools.
- ☐ **6.** I pay attention to details when showing work.
- ☐ **7.** I can break problems into parts.
- ☐ **8.** I look for shortcuts when solving problems.



MULTI MATCH

Multi-Match card sets help students learn to match numbers, expressions, and models, and discuss reasons. Goals that have a related card set are marked with red boxes. See www.mathpaths.com for an updated list.

Also see the bundle of card sets for Grade 8.

The free *Multi-Match Games Guide* includes game instructions and templates to make your own cards.

Released 08/08/2014, Updated 03/15/2015

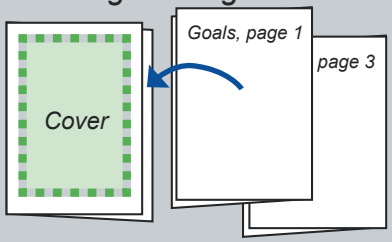
Name_____

COMMON CORE STATE STANDARDS

Grade 8 Math

Goals Leaflet for Parents

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



Courtesy of www.mathpaths.com for 2014–2015

- ✓ For each content cluster from the Common Core standards, there are 3 to 9 clear goals written in "I can" format.
- ✓ The habits checklist is based on the 8 Common Core practice standards.
- ✓ *Multi-Match* practice game cards are available for goals marked in red.

GRADE 8

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.

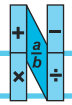
1. I can simplify and solve linear equations by writing equivalent forms. ☐ _____
2. I can identify or write equations with 0, 1, or infinitely many solutions. ☐ _____
3. I can simplify and solve linear equations with rational coefficients. ☐ _____
4. I can identify the solution to a system of two linear 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. ☐ ____