

Math 8-Chapter 1: Problem Solving

Plan of Action

Common Core State Standards covered:

8.SP.2 Know that straight lines are widely used to model relationships between two quantitative variables.

8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.

8.EE.C.7 Solve linear equations in one variable.

8.EE.C.7.A Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).

8.EE.C.7.B Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

Give a rating for each target that is listed below.

Use the following numbers to rate how familiar you are with each target:

- 1- *I am not familiar with that target at all.*
- 2- *I know a little bit about that target.*
- 3- *I am pretty familiar with that target.*
- 4- *I know this target so well I could teach it to the class.*

Learning Targets:	Rating B/E
1. I can add, subtract, multiply, and divide integers to find the area and perimeter of rectangles.	/
2. I can use data and graphs to solve a problem.	/
3. I can use proportional relationships with graphs and tables & solve proportions.	/
Ckpt 1 - I can add, subtract, multiply, and divide signed fractions, decimals, & integers.	/

This section is for you to keep track of your score on each target after being tested.

Please write in your score (out of 10) after each time the target was tested for your personal reference.

<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>	<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>
<u>1</u>			<u>3</u>		
<u>2</u>			<u>CkPt 1</u>		

Math 8-Chapter 2: Simplifying With Variables

Plan of Action

Common Core State Standards covered:

8.EE.C.7 Solve linear equations in one variable.

8.EE.C.7.A Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).

8.EE.C.7.B Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

Give a rating for each target that is listed below.

Use the following numbers to rate how familiar you are with each target:

- 5- *I am not familiar with that target at all.*
- 6- *I know a little bit about that target.*
- 7- *I am pretty familiar with that target.*
- 8- *I know this target so well I could teach it to the class.*

Learning Targets:	Rating B/E
4. I can show what a variable is.	/
5. I can write and simplify algebraic expressions.	/
6. I can compare two complicated algebraic expressions.	/
7. I can solve for a variable if you know that two expressions are equal.	/
Ckpt 2 - Evaluating Expressions and Using Order of Operations	/

This section is for you to keep track of your score on each target after being tested.

Please write in your score (out of 10) after each time the target was tested for your personal reference.

<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>	<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>
<u>4</u>			<u>6</u>		
<u>5</u>			<u>7</u>		
			<u>Ckpt 2</u>		

Math 8-Chapter 3: Graphs and Equations

Plan of Action

Common Core State Standards covered:

8.F.A.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.¹

8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).

8.F.A.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.

8.F.B.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.

8.EE.C.7 Solve linear equations in one variable.

8.EE.C.7.A Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).

8.EE.C.7.B Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

Give a rating for each target that is listed below.

Use the following numbers to rate how familiar you are with each target:

9- *I am not familiar with that target at all.*

10- *I know a little bit about that target.*

11- *I am pretty familiar with that target.*

12- *I know this target so well I could teach it to the class.*

Learning Targets:	Rating B/E
8. I can find a rule from a table.	/
9. I can represent a situation using a table, a rule, and a graph.	/
10. I can graph linear and parabolic rules using an appropriate scale.	/
11a. I can solve multi-step equations.	/
11b. I can determine the number of solutions to an equation.	/
Ckpt3 - Unit Rates and Proportions	/

This section is for you to keep track of your score on each target after being tested.

Please write in your score (out of 10) after each time the target was tested for your personal reference.

<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>	<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>
<u>8</u>			<u>10</u>		
<u>9</u>			<u>11a</u>		
<u>Ckpt 3</u>			<u>11b</u>		

Math 8-Chapter 4: Multiple Representations

Plan of Action

Common Core State Standards covered:

8.EE.B.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b .

8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.*

8.F.B.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.

Give a rating for each target that is listed below.

Use the following numbers to rate how familiar you are with each target:

13- I am not familiar with that target at all.

14- I know a little bit about that target.

15- I am pretty familiar with that target.

16- I know this target so well I could teach it to the class.

Learning Targets:	Rating B/E
12. I can change any representation of data (such as a pattern, table, graph or rule) to any of the other representations.	/
13. I can use the connections between patterns, tables, graphs, and rules to solve problems.	/
Ckpt 4 - Area and Perimeter of Circles and Complex Figures	/

This section is for you to keep track of your score on each target after being tested.

Please write in your score (out of 10) after each time the target was tested for your personal reference.

<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>	<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>
<u>12</u>			<u>Ckpt 4</u>		
<u>13</u>					

Math 8-Chapter 5: Systems of Equations

Plan of Action

Common Core State Standards covered:

8.EE.C.7.B Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

8.EE.C.8 Analyze and solve pairs of simultaneous linear equations.

8.EE.C.8.A Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.

8.EE.C.8.B Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.*

8.EE.C.8.C Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.*

Give a rating for each target that is listed below.

Use the following numbers to rate how familiar you are with each target:

17- I am not familiar with that target at all.

18- I know a little bit about that target.

19- I am pretty familiar with that target.

20- I know this target so well I could teach it to the class.

Learning Targets:	Rating B/E
14. I can solve multi-variable equations for one of the variables.	/
15. I can solve equations with fractional coefficients.	/
16. I can find the point where two lines intersect.	/
17. I can use the connections between graphs, tables, rules, and patterns to solve problems.	/
Ckpt 5 – I can solve equations.	/

This section is for you to keep track of your score on each target after being tested.

Please write in your score (out of 10) after each time the target was tested for your personal reference.

<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>	<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>
<u>14</u>			<u>17</u>		
<u>15</u>			<u>Ckpt5</u>		
<u>16</u>					

Math 8-Chapter 6: Transformations and Similarity

Plan of Action

Common Core State Standards covered:

8.G.A.1 Verify experimentally the properties of rotations, reflections, and translations:

8.G.A.1.A Lines are taken to lines, and line segments to line segments of the same length.

8.G.A.1.B Angles are taken to angles of the same measure.

8.G.A.1.C Parallel lines are taken to parallel lines.

8.G.A.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.

8.G.A.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

8.G.A.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.

Give a rating for each target that is listed below.

Use the following numbers to rate how familiar you are with each target:

21- I am not familiar with that target at all.

22- I know a little bit about that target.

23- I am pretty familiar with that target.

24- I know this target so well I could teach it to the class.

Learning Targets:	Rating B/E
18. I can transform shapes by flipping, turning, and sliding them on a coordinate graph.	/
19. I can describe movement on a graph using coordinates and expressions.	/
20. I can compare shapes and use similarity to find missing side lengths of polygons, especially triangles.	/
Ckpt 6 - Multiple Representations of Linear Equations	/

This section is for you to keep track of your score on each target after being tested.

Please write in your score (out of 10) after each time the target was tested for your personal reference.

<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>	<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>
<u>18</u>			<u>20</u>		
<u>19</u>			<u>Ckpt 6</u>		

Math 8-Chapter 7: Slope and Association

Plan of Action

Common Core State Standards covered:

8.SP.A.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.

8.SP.A.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.

8.SP.A.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.

8.SP.A.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables.

8.EE.B.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.

8.EE.B.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b .

8.F.A.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.

Give a rating for each target that is listed below.

Use the following numbers to rate how familiar you are with each target:

25- I am not familiar with that target at all.

26- I know a little bit about that target.

27- I am pretty familiar with that target.

28- I know this target so well I could teach it to the class.

Learning Targets:	Rating B/E
21. I can create scatterplots that show the relationship between two variables.	/
22. I can identify associations between sets of data and represent the relationship with a trend line.	/
23. I can measure the steepness of a line by using slope.	/
24. I can find the slope of a line given its equation, its graph, or any two points on the line.	/
25. I can find the equation of a trend line to fit linear data.	/
Ckpt 7 - Solving Equations with Fractions (Fraction Busters)	/

This section is for you to keep track of your score on each target after being tested. Please write in your score (out of 10) after each time the target was tested for your personal reference.

<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>	<u>Target #</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>
<u>21</u>			<u>24</u>		
<u>22</u>			<u>25</u>		
<u>23</u>			<u>Ckpt 7</u>		

Chapter 8: Exponents & Functions

Plan of Action

Common Core State Standards covered:

- **8.F.3.** Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.
- **8.EE.1.** Know and apply the properties of integer exponents to generate equivalent numerical expressions.
- **8.EE.4.** Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.
- **8.F.1.** Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. (function notation not required)
- **8.F.5.** Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

Give a rating for each target that is listed below.

Use the following numbers to rate how familiar you are with each target:

29- I am not familiar with that target at all.

30- I know a little bit about that target.

31- I am pretty familiar with that target.

32- I know this target so well I could teach it to the class.

Learning Targets:	Rating B/E
26. I can calculate compound and simple interest.	/
27. I can determine whether a relationship grows linearly or exponentially.	/
28. I can rewrite expressions using exponents and scientific notation.	/
29. I can perform operations with numbers written in scientific notation.	/
30. I can determine if a relation is a function by looking at its table or graph.	/
Ckpt 8 - Transformations	/

This section is for you to keep track of your score on each target after being tested. Please write in your score (out of 10) after each time the target was tested for your personal reference.

<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>	<u>Target #</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>
<u>26</u>			<u>29</u>		
<u>27</u>			<u>30</u>		
<u>28</u>			<u>Ckpt 8</u>		

Chapter 9: Angles & the Pythagorean Theorem

Plan of Action

Common Core State Standards covered:

- 8.G.5.** Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.
- 8.G.6.** Explain a proof of the Pythagorean Theorem and its converse.
- 8.G.7.** Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
- 8.EE.2.** Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.
- 8.NS.1.** Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number
- 8.NS.2.** Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2).
- 8.G.8.** Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

Give a rating for each target that is listed below.

Use the following numbers to rate how familiar you are with each target:

33- I am not familiar with that target at all.

34- I know a little bit about that target.

35- I am pretty familiar with that target.

36- I know this target so well I could teach it to the class.

Learning Targets:	Rating B/E
31. I can find the measurements of angles made by a line that intersects parallel lines.	/
32. I can find unknown angles inside and outside of triangles.	/
33. I can determine if triangles are similar by looking at their angles.	/
34. I can find missing side lengths of right triangles using the Pythagorean Theorem.	/
35. I can find the square root of a number and identify irrational numbers.	/
36. I can convert terminating and repeating decimals to fractions.	/
Ckpt 9 - Scatterplots and Association	/

Use this section is for you to keep track of your score on each target after being tested. Please write in your score (out of 10) after each time the target was tested for your personal reference.

<u>Target #:</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>	<u>Target #</u>	<u>Attempt 1:</u>	<u>Attempt 2:</u>
<u>31</u>			<u>34</u>		
<u>32</u>			<u>35</u>		
<u>33</u>			<u>36</u>		
<u>Ckpt 9</u>					