



I CAN DO THIS!

Sixth Grade-Mathematics

Name _____



	STANDARDS	PATTERNS AND FUNCTIONS	EXAMPLE OR PROBLEM				
	AF 1.2	I can write a variable expression for a given situation.	Write a variable expression for the phrase “the product of k and x .”				
	AF 1.2	I can evaluate a variable expression using up to three variables.	Evaluate $m + n + p$ for $m = 45$, $n = 9$ and $p = 5$				
	AF 1.3	I can use the order of operations to evaluate expressions and justify each step in the process.	Evaluate the expression $x \div 3 - 2q$ for $x=18$ and $q=2$				
	AF 1.3	I can use the commutative and associative properties to evaluate expressions.	Use mental math to evaluate the expression. Justify each step. $5 \times (13 \times 20)$				
	AF 1.4	I can solve problems manually using the order of operations.	Solve using the order of operations. $2b - 3c - 3^2$				

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	STANDARDS	NUMBER THEORY	EXAMPLE OR PROBLEM				
	NS 2.4	I can determine the greatest common factor (GCF) of whole numbers.	Find the GCF of 12 and 72 by listing all the factors of the numbers.				
	NS 2.4	I can determine the least common multiple (LCM) of whole numbers.	Find the LCM using a list of multiples or prime factors. 12 14				

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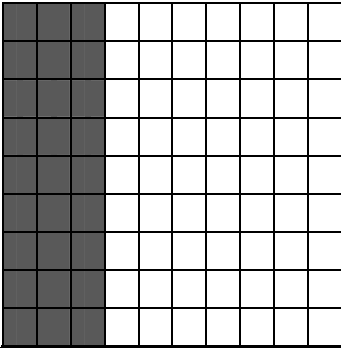
	STANDARDS	FRACTIONS, DECIMALS, AND PERCENTS I (CONCEPTUAL UNDERSTANDING)	 EXAMPLE OR PROBLEM				
	NS 1.1	I can compare and order positive fractions and place them on a number line.	Write the fractions in order from least to greatest. $\frac{1}{12}, \frac{11}{24}, \frac{2}{3}, \frac{7}{8}$				
	NS 1.1	I can compare and order positive decimals and place them on a number line.	Order 2.3, 2.07, 2.18, 2.27, and 2.32 from least to greatest.				
	NS 1.1	I can compare and order positive mixed numbers and place them on a number line.	Graph the numbers on a number line. Write them in order from least to greatest. $\frac{17}{8}, \frac{3}{4}, \frac{13}{8}, 1\frac{1}{4}$				
	NS 1.1	I can compare and order fractions, decimals, and mixed numbers and place them on a number line.	Graph the numbers on a number line. Put the numbers in order from least to greatest. $1\frac{3}{8}, 0.47, 2\frac{1}{6}, \frac{7}{8}$				



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	STANDARDS	FRACTIONS, DECIMALS, AND PERCENTS I (CONCEPTUAL UNDERSTANDING)	EXAMPLE OR PROBLEM 				
	NS 1.2	I can interpret and use ratios in different contexts.	Find the ratio of the shaded region to the unshaded region. 				
	NS 2.4	I can use the GCF to simplify fractions.	Write the fraction $\frac{18}{24}$ in simplest form.				

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	STANDARDS	FRACTIONS, DECIMALS, AND PERCENTS II (OPERATIONS)	EXAMPLE OR PROBLEM				
	NS 2.1	I can add positive fractions	Evaluate. Simplify if possible. $9\frac{5}{7} + 3\frac{1}{2}$				
	NS 2.1	I can subtract positive fractions.	Evaluate. Simplify if possible. $\frac{5}{9} - \frac{1}{6}$				
	NS 2.1	I can solve and problems involving multiplication of positive fractions.	You are planning a rectangular vegetable garden that is $2\frac{1}{2}$ yards by $1\frac{3}{4}$ yards. Find the area of the rectangular garden.				
	NS 2.1	I can solve problems involving division of positive fractions.	Find the quotient. $4\frac{2}{3} \div 6\frac{1}{2}$				
	NS 2.2	I can explain the meaning of multiplication of positive fractions.	Use an area model to find the product of $\frac{2}{3}$ and $\frac{4}{7}$				



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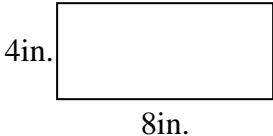
	STANDARDS	FRACTIONS, DECIMALS, AND PERCENTS II (OPERATIONS)	 EXAMPLE OR PROBLEM				
	NS 2.2	I can explain the meaning of division of positive fractions.	Find the quotient $4 \div \frac{1}{3}$ by using a model.				
	NS 2.4	I can find the LCD of two or more fractions and use it to solve problems with fractions.	Find the sum of $\frac{1}{3}$, $\frac{1}{4}$, and $\frac{3}{8}$.				
	AF 1.3	I can use the distributive property to evaluate expressions.	Use the distributive property to rewrite the expression. $6(4 + n)$				
	NS 1.4	I can find the percent of a given quantity.	Calculate each percent a) Find 20% of 48. b) What percent of 40 is 15?				
	NS 1.4	I can solve percent problems involving tips.	Calculate a 15% tip for a restaurant bill of \$50.76.				
	NS 1.4	I can solve percent problems involving discounts.	You buy a pair of shoes on sale. The price is 80% of the regular price of \$24.50. What is the sale price?				
	NS 1.4	I can solve percent problems involving simple interest.	You owe \$4000 on a credit card that has an 18% interest rate. Find the interest that you will owe after three months.				
	NS 1.4	I can solve percent problems involving tips.	The bill was \$25 and you need to add a 15% tip. How much is the total?				



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	STANDARDS	PROPORTIONAL REASONING	 EXAMPLE OR PROBLEM				
	NS 1.2	I can use ratios to show the relative sizes of two quantities.	Find the ratio of the rectangle's width to its length. 				
	NS 1.3	I can use proportions to solve problems.	An employee earns \$120 for working 5 hours. At that rate, how much will that employee earn for working 8 hours?				
	NS 1.3	I understand and can use proportions to solve problems. I can use cross multiplication as a way to solve proportions.	Use cross-multiplication to solve the proportion. $\frac{4}{7} = \frac{n}{21}$				
	AF 2.1	I can convert from one unit of measurement to another.	Convert 8 liters to milliliters. Round to the nearest hundredth if necessary.				
	AF 2.3	I can solve problems using rates, average speed, distance and time.	You drive 1440 miles in 3 days. Each day your drive for 9 hours. What is your speed in miles per hour?				

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	STANDARDS	INTEGERS	EXAMPLE OR PROBLEM				
	NS 1.1	I can compare and order positive and negative fractions, decimals, and mixed numbers and graph them on a number line.	Graph $-\frac{1}{2}$, $-\frac{4}{3}$, -0.25 and $-2\frac{3}{8}$ on a number line.				
	NS 2.3	I can solve addition problems with positive and negative numbers.	Find the sum. $10 + (-8) + 12$				
	NS 2.3	I can solve subtraction problems with positive and negative numbers.	Find the difference. $-2 - (-3)$				
	NS 2.3	I can solve multiplication problems with positive and negative numbers.	Find the product. -15×-3				
	NS 2.3	I can solve division problems with positive and negative numbers.	Find the quotient. $24 \div -6$				

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	STANDARDS	INTEGERS	EXAMPLE OR PROBLEM				
	AF 1.3	I can use the order of operations to evaluate expressions.	Evaluate the expression. $\frac{2b^2 + 4}{2}$				



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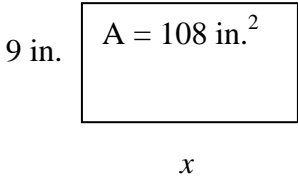
	STANDARDS	WRITING AND SOLVING EQUATIONS	 EXAMPLE OR PROBLEM				
	AF 1.2	I can write an algebraic expression for a given situation.	Write an algebraic expression for the verbal phrase. Twice the sum of a number and negative nine				
	AF 1.2	I can evaluate an algebraic expression.	Evaluate the expression for the given values of the variables. 2a gg $3c$ when $a = 2, b = -1$ and $c = -3$.				
	AF 1.1	I can solve one-step addition equations in one variable.	Solve the equation. Then check your solution. $x + 15 = -13$				
	AF 1.1	I can write one-step subtraction equations in one variable.	Write an algebraic equation for the sentence. Then solve the equation. The difference of a number and fifteen is negative twenty.				



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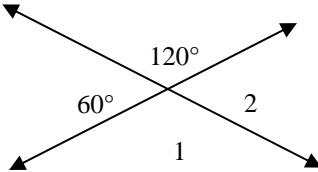
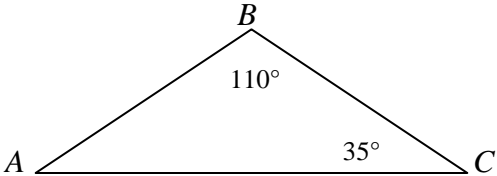
	STANDARDS	WRITING AND SOLVING EQUATIONS	 EXAMPLE OR PROBLEM				
	AF 1.1	I can write and solve one-step multiplication equations in one variable.	Write an equation using the given information about the rectangle. Then solve the equation to find x . 				
	AF 1.1	I can write and solve one-step division equations in one variable.	Solve the equation. Then check your solution. $\frac{x}{5.3} = 0.4$				

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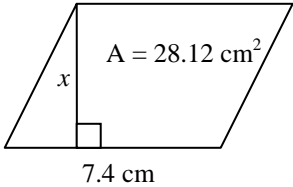
	STANDARDS	PERIMETER, AREA AND VOLUME	 EXAMPLE OR PROBLEM				
	MG 2.1	I can identify angles as vertical, adjacent, complementary, or supplementary.	Using the diagram below, identify pairs of vertical angles, adjacent angles, complementary angles, and supplementary angles. <div style="text-align: center;">  </div>				
	MG 2.2	I can find angle measures using complementary and supplementary properties.	An angle has a measure of 40° . What is the measure of the complement of the angle? What is the measure of the supplement of the angle?				
	MG 2.2	I can use the sum of the angles of a triangle to solve find an unknown angle.	What is the measure of $\angle A$ in triangle ABC ? <div style="text-align: center;">  </div>				
	MG 2.3	I can draw triangles based on given information.	Draw a right isosceles triangle.				



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	STANDARDS	PERIMETER, AREA AND VOLUME	 EXAMPLE OR PROBLEM				
	MG 2.3	I can draw quadrilaterals based on given information.	Draw a quadrilateral having equal sides and no right angles.				
	AF 3.1	I can find the area of a triangle.	Find the area of the triangle described. Base = 8 cm, height = 6 cm				
	AF 3.1	I can find the area of a parallelogram and use it to solve problems.	Find the value of x in the parallelogram. 				
	MG 1.1	I know the formula for the circumference of a circle.	Write the formula for the circumference of a circle.				
	MG 1.2	I can calculate the circumference of a circle.	Find the circumference of a circle with a radius of 4 cm. Use 3.14 for π .				
	MG 1.2	I can calculate the area of a circle.	What is the area of a circle with a diameter of 10 centimeters? Use 3.14 for π .				



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	STANDARDS	PERIMETER, AREA AND VOLUME	 EXAMPLE OR PROBLEM				
	MG 1.3	I can find the volume of a rectangular prism.	Draw a rectangular prism with given dimensions. Find the volume. 10 cm by 150 cm by 2 cm				
	MG 1.3	I can find the volume of a triangular prism.	Find the volume of the triangular prism with height 8 cm and base dimensions as follows: length of base = 3 cm; height of base = 5 cm				
	MG 1.3	I can find the volume of a cylinder.	Find the volume of a cylinder with height 3 ft. and a radius of 20 ft. Use 3.14 for π .				
	MG 1.3	I know the formulas for the volume of a triangular prism and cylinders (area of base x height).	Write the formula of a triangular prism Write the formula of a cylinder.				
	AF 3.1	I can use variables in expressions to describe geometric relationships.	A rectangle has width w . Its length is one more than three times its width. Find the perimeter of the rectangle. Express your answer in terms of w .				

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	STANDARDS	PROBABILITY	EXAMPLE OR PROBLEM				
	SDAP 3.1	I can represent all possible outcomes for a compound event in an organized way and express the theoretical probability of each outcome (e.g., tables, grids, and tree diagrams).	Use a tree diagram to find the probability of getting at least 3 heads when a coin is tossed four times.				
	SDAP 3.2	I can use data to estimate probabilities of future events	A fair 6-sided number cube is rolled 420 times. Predict how many times it will show up a 2 or a 3.				
	SDAP 3.3	I can represent probabilities as ratios, proportions, and decimals between 0 and 1.	A number octahedron has eight sides numbered 1 through 8. If you roll the octahedron, what is the probability of getting an even number? Represent your answer as a ratio and a decimal.				
	SDAP 3.3	I can represent probabilities as percentages between 0 and 100.	A coin is tossed 120 times and lands on heads 75 of those times. Find the probability of landing on heads. Express your answer as a percent.				
	SDAP 3.3	I can find the probability of an event not occurring.	Eight marbles numbered 1 to 8 are placed in a jar. One marble is selected at random. Find the probability that it is not an even number?				



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	STANDARDS	PROBABILITY	EXAMPLE OR PROBLEM				
	SDAP 3.4	I can find the probability of two independent events.	You put 4 red marbles and 2 blue marbles in a bag and draw 2 marbles from the bag. What is the probability of choosing a red marble and then a blue marble if the first marble is replaced before the second is chosen?				
	SDAP 3.4	I can find the probability of disjoint events.	A spinner is numbered 1 through 10. What is the probability of spinning a number less than 3 or greater than 6 in a single spin?				
	SDAP 3.5	I understand the difference between independent and dependent events.	Tell whether the events are independent or dependent. Explain your reasoning. Event A: A 6-sided number cube is rolled and comes up five. Event B: A 6-sided number cube is rolled and comes up five.				

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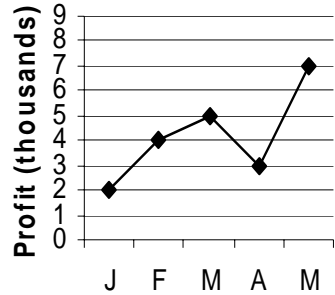
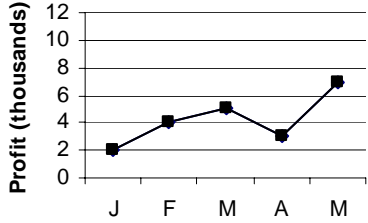


STANDARDS	STATISTICS	EXAMPLE OR PROBLEM																		
SDAP 1.1	I can compute the range, mean, median and mode.	Find the mean, median and mode of the data set. 5, 5, 6, 7, 12, 9, 10, 8, 10																		
SDAP 1.2	I can determine how additional data added to data sets affects the mean, median, and mode.	Find the mean, median, and mode(s). 17, 18, 16, 18, 18, 13, 18, 12, 18, 17 If you the number 30 to the data set four times, how does that affect the mean, median, and mode?																		
SDAP 1.3	I can determine how the inclusion or exclusion of outliers affects the mean, median, and mode.	Identify the outlier in the data set. Find the mean, median, and mode(s) of the data set when the outlier is included and when it is not. 28, 20, 25, 28, 100, 25, 20																		
SDAP 2.5	I can identify claims based on statistical data and evaluate the validity of the claims.	Use a line graph or a bar graph to represent the data in the table. Use your graph to write a statement about the data. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Hours</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">Amount</td> <td style="text-align: center;">\$45</td> <td style="text-align: center;">\$52</td> <td style="text-align: center;">\$62</td> <td style="text-align: center;">\$73</td> <td style="text-align: center;">\$83</td> <td style="text-align: center;">\$88</td> </tr> </table>	Hours	0	1	2	3	4	5	Amount	\$45	\$52	\$62	\$73	\$83	\$88				
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	STANDARDS	 STATISTICS	 EXAMPLE OR PROBLEM																												
	SDAP 2.3	I can analyze data displays and explain why the way in which the results are displayed may influence the conclusions reached.	<p>Which graph is more likely to convince someone to invest in Company ABC? Why?</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="831 474 1205 979"> <p style="text-align: center;">Company ABC</p>  <table border="1"> <caption>Company ABC - Graph 1 Data</caption> <thead> <tr><th>Month</th><th>Profit (thousands)</th></tr> </thead> <tbody> <tr><td>J</td><td>2</td></tr> <tr><td>F</td><td>4</td></tr> <tr><td>M</td><td>5</td></tr> <tr><td>A</td><td>3</td></tr> <tr><td>M</td><td>7</td></tr> </tbody> </table> </div> <div data-bbox="1243 474 1650 854"> <p style="text-align: center;">Company ABC</p>  <table border="1"> <caption>Company ABC - Graph 2 Data</caption> <thead> <tr><th>Month</th><th>Profit (thousands)</th></tr> </thead> <tbody> <tr><td>J</td><td>2</td></tr> <tr><td>F</td><td>4</td></tr> <tr><td>M</td><td>5</td></tr> <tr><td>A</td><td>3</td></tr> <tr><td>M</td><td>7</td></tr> </tbody> </table> </div> </div>	Month	Profit (thousands)	J	2	F	4	M	5	A	3	M	7	Month	Profit (thousands)	J	2	F	4	M	5	A	3	M	7				
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	STANDARDS	STATISTICS	EXAMPLE OR PROBLEM				
	SDAP 2.1	I can compare and select samples of a population.	<p>You want to survey teenagers in Santa Cruz County about their snacking habits. Identify the type of sample each method produces and tell whether the sample is biased.</p> <ul style="list-style-type: none"> a. You run an ad in school newspapers throughout the county asking teenagers to respond to the survey. b. For three mornings you stand on 41st Street in Capitola, California. You survey all the teenagers who pass you. c. You obtain lists of all middle school and high school students in Santa Cruz County and select names at random. 				
	SDAP 2.4	I can analyze the results of a survey and evaluate claims.	<p>Decide if the survey question is biased or unbiased.</p> <p>“Should the school’s library install new lighting to improve our ability to read”</p>				

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	STANDARDS	PROBLEM SOLVING	EXAMPLE OR PROBLEM				
	MR 1.1 MR 1.2 MR 1.3 MR 2.1 MR 2.2 MR 2.3 MR 2.4 MR 2.5 MR 2.6 MR 2.7 MR 3.1 MR 3.2 MR 3.3	Mathematical Reasoning Standards integrated throughout the curriculum.					