

Mathematician: _____

Wednesday	Thursday	Friday
On January 1, 2000, there were 175,000 tons of trash in a landfill that had a capacity of 325,000 tons. Each year since then, the amount of trash in the landfill increased by 7,500 tons. If y represents the time, in years, after January 1, 2000, which of the following inequalities describes the set of years where the landfill is at or above capacity? A) $325,000 - 7,500 \leq y$ B) $325,000 \leq 7,500y$ C) $150,000 \geq 7,500y$ D) $175,000 + 7,500y \geq 325,000$ Which of the following ordered pairs (x, y) satisfies the inequality $5x - 3y < 4$? I. (1, 1) II. (2, 5) III. (3, 2) A) I only B) II only C) I and II only D) I and III only Explain how you solved one of the problems above: _____ _____ _____	Roberto is an insurance agent who sells two types of policies: a \$50,000 policy and a \$100,000 policy. Last month, his goal was to sell at least 57 insurance policies. While he did not meet his goal, the total value of the policies he sold was over \$3,000,000. Which of the following systems of inequalities describes x, the possible number of \$50,000 policies, and y, the possible number of \$100,000 policies, that Roberto sold last month? A) $x + y < 57$ $50,000x + 100,000y < 3,000,000$ B) $x + y > 57$ $50,000x + 100,000y > 3,000,000$ C) $x + y < 57$ $50,000x + 100,000y > 3,000,000$ D) $x + y > 57$ $50,000x + 100,000y < 3,000,000$ Jaime is preparing for a bicycle race. His goal is to bicycle an average of at least 280 miles per week for 4 weeks. He bicycled 240 miles the first week, 310 miles the second week, and 320 miles the third week. Which inequality can be used to represent the number of miles, x, Jaime could bicycle on the 4th week to meet his goal? A) $\frac{240 + 310 + 320}{3} + x \geq 280$ B) $240 + 310 + 320 \geq x(280)$ C) $\frac{240}{4} + \frac{310}{4} + \frac{320}{4} + x \geq 280$ D) $240 + 310 + 320 + x \geq 4(280)$	A project manager estimates that a project will take x hours to complete, where $x > 100$. The goal is for the estimate to be within 10 hours of the time it will actually take to complete the project. If the manager meets the goal and it takes y hours to complete the project, which of the following inequalities represents the relationship between the estimated time and the actual completion time? A) $x + y < 10$ B) $y > x + 10$ C) $y < x - 10$ D) $-10 < y - x < 10$ The average annual energy cost for a certain home is \$4,334. The homeowner plans to spend \$25,000 to install a geothermal heating system. The homeowner estimates that the average annual energy cost will then be \$2,712. Which of the following inequalities can be solved to find t, the number of years after installation at which the total amount of energy cost savings will exceed the installation cost? A) $25,000 > (4,334 - 2,712)t$ B) $25,000 < (4,334 - 2,712)t$ C) $25,000 - 4,334 > 2,712t$ D) $25,000 > \frac{4,332}{2,712}t$

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Something to consider	Monday	Tuesday
Kaplan's proven approach to SAT Math= Step 1: Read the question, identifying and organizing important information as you go • What information am I given? • Separate the question from the context. • How are the answer choices different? • Should I label or draw a diagram? Step 2: Choose the best strategy to answer the SAT Math question • Look for Patterns • Pick numbers or use straightforward math Step 3: Check that you answered the right question • Review the question stem • Check units of measurement • Double-check your work Sometimes we're tested. Not to show our weaknesses, but to discover our strengths. —unknown	Which of the following numbers is NOT a solution of the inequality $3x - 5 \geq 4x - 3$? A) -1 B) -2 C) -3 D) -5 If $3p - 2 \geq 1$, what is the least possible value of $3p + 2$? A) 5 B) 3 C) 2 D) 1 Explain how you solved one of the problems above: _____ _____ _____	Let x and y be numbers such that $-y < x < y$. Which of the following must be true? I. $x < y$ II. $x > 0$ III. $y > 0$ A) I only B) I and II only C) I and III only D) I, II, and III How did you check your answer? _____ _____ If $16 + 4x$ is 10 more than 14, what is the value of $8x$? A) 2 B) 6 C) 16 D) 80

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Ratio and Proportion Ratio and Proportion: Different Words! Ratio: "to every" 1 Redskin fan to every 2 Patriot fans  Proportion: "out of" 1 out of 3 football fans is a Redskin fan Helpful Tips → Identify whether the problem involves fractions or ratios. → If a ratio question asks you to change or identify values, first find the sum of the pieces. → When in doubt, try to use decimals. → Remember special fractions - ie) any number divided by 1 is the same thing as the original number and a number divided by itself = 1!	If a 3 pound pizza is sliced in half and each half is sliced into thirds, what is the weight, in ounces, of each of the slices? (1 pound = 16 ounces) A) 4 B) 6 C) 8 D) 16 Zainab spends 15% of her 8 hour workday in meetings. How many minutes of her workday did she spend in meetings? A) 1.2 B) 15 C) 48 D) 72 Explain how you solved one of the problems above: _____ _____ _____	To make a bakery's signature chocolate muffins, a baker needs 2.5 ounces of chocolate for each muffin. How many <u>pounds</u> of chocolate are needed to make 48 signature chocolate muffins? (1 pound = 16 ounces) A) 7.5 B) 10 C) 50.5 D) 120 In a random sample of 200 cars of a particular model, 3 have a manufacturing defect. At this rate, how many of 10,000 cars of the same model will have a manufacturing defect? A) 150 B) 200 C) 250 D) 300 How did you check your answer? _____ _____

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Movies with Greatest Ticket Sales in 2012 <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">MPAA rating</th> <th colspan="4">Type of movie</th> <th rowspan="2">Total</th> </tr> <tr> <th>Action</th> <th>Animated</th> <th>Comedy</th> <th>Drama</th> </tr> </thead> <tbody> <tr> <td>PG</td> <td>2</td> <td>7</td> <td>0</td> <td>2</td> <td>11</td> </tr> <tr> <td>PG-13</td> <td>10</td> <td>0</td> <td>4</td> <td>8</td> <td>22</td> </tr> <tr> <td>R</td> <td>6</td> <td>0</td> <td>5</td> <td>6</td> <td>17</td> </tr> <tr> <td>Total</td> <td>18</td> <td>7</td> <td>9</td> <td>16</td> <td>50</td> </tr> </tbody> </table> The table above represents the 50 movies that had the greatest ticket sales in 2012, categorized by movie type and Motion Picture Association of America (MPAA) rating. What proportion of the movies are comedies with a PG-13 rating? A) $\frac{2}{25}$ B) $\frac{9}{50}$ C) $\frac{2}{11}$ D) $\frac{11}{25}$ What % of all movies were comedy or drama?	MPAA rating	Type of movie				Total	Action	Animated	Comedy	Drama	PG	2	7	0	2	11	PG-13	10	0	4	8	22	R	6	0	5	6	17	Total	18	7	9	16	50	The <i>pes</i>, a Roman measure of length, is approximately equal to 11.65 inches. It is also equivalent to 16 smaller Roman units called digits. Based on these relationships, 75 Roman digits is equivalent to how many <u>feet</u>, to the nearest hundredth? (12 inches = 1 foot) <table border="1" style="margin: auto;"> <tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td><td>7</td><td>8</td></tr> <tr><td>9</td><td></td><td></td><td></td></tr> </table> Show your work:	☐	☒	☐	☐	1	2	3	4	5	6	7	8	9				Horsepower and watts are units of measure of power. They are directly proportional such that 5 horsepower is equal to 3730 watts. How much power, in watts, is equal to 2 horsepower? <table border="1" style="margin: auto;"> <tr><td>☐</td><td>☒</td><td>☐</td><td>☐</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td><td>7</td><td>8</td></tr> <tr><td>9</td><td></td><td></td><td></td></tr> </table> Show your work:	☐	☒	☐	☐	1	2	3	4	5	6	7	8	9			
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