

WORD PROBLEMS

Grade 7

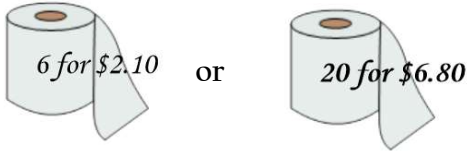
The Number System – Skill Practice and Problem Solving

<p>1. At 5AM the temperature was -7°C. In the afternoon, the temperature was 4°C. What was the change in temperature during the day? (<i>Integers</i>)</p>	<p>2. Bryce goes out for a walk. He walks $\frac{9}{8}$ miles from home. He walks back $\frac{1}{2}$ mile before meeting up with Mya. How far did Mya walk with Bryce to his house? (<i>Fractions</i>)</p>
<p>3. Lena currently has a balance of $-\\$10.48$ in his checking account. Her bank requires her to maintain a balance of $\\$20$. How much does Lena need to deposit into her account to reach the minimum balance? (<i>Integers</i>)</p>	<p>4. Solve: (<i>Integers/Fractions</i>)</p> $3\frac{1}{5} - \left(-1\frac{9}{10}\right)$
<p>5. A company's stock lost $\\$3.15$ of its value each day for 5 consecutive days. What was the total change in the stock price? (<i>Integers</i>)</p>	<p>6. Train A arrives every 18 minutes and Train B arrives every 27 minutes. If both trains arrived at 6:45pm, what was the <u>previous</u> time when the trains arrived together? (<i>Divisibility – CF</i>)</p>
<p>7. At a restaurant, one table with 5 people, has a $\\$19$ bill. Another table, with 6 people has a $\\$23$ bill. If each group decides to split the bill equally among the people at the table, which table has the least cost per table? (<i>Division</i>)</p>	<p>8. It is recommended that you sleep about 8 hours a day. If you have kept up this average, how long have you slept since you were born? (<i>Multiplication</i>)</p>

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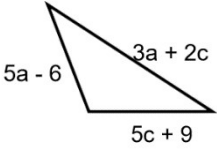
Ratios & Proportional Relationships - Skill Practice and Problem Solving

<p>1. Hailey buys a 10-trip train ticket for \$72.50. Kim buys an unlimited weekly pass for \$100 and uses it for 13 trips during the week. Write the unit cost per trip for each person. (<i>Unit price</i>)</p>	<p>2. Chad earns \$234 for 36 hours of work. Geo earns \$288 for 40 hours of work. Are the pay rates of these people proportional (equal)? Explain (<i>Unit cost</i>)</p>
<p>3. Suppose 48 out of every 120 people like baseball. Of those people who like baseball, 3 out of 5 play baseball. If you ask 500 people, how many would you expect to play baseball? (<i>Ratio</i>)</p>	<p>4. Georgia is making salad dressing using vinegar and syrup. The ratio of vinegar to syrup is 5:3. She wants to make 48 mL of dressing. How much vinegar does she need? (<i>Ratio</i>)</p>
<p>5. Stacey's bill at a restaurant before tax and tip is \$32.00. If tax is 5.25% and she wants to leave 20% of the bill including the tax for a tip, how much will she spend in total? (<i>Percent</i>)</p>	<p>6. Kate's car can drive 162 km on 15L of gas. How far can she drive with 75L? (<i>Ratio</i>)</p>
<p>7. Kallie has the option of toilet paper in packages of 6 or 20. How much will Kallie spend on each roll of toilet paper by buying a package of 20? (<i>Unit Price</i>)</p> 	<p>9. The scale factor for Maria's toy car collection is 1:8. If a toy car collection is $7\frac{1}{2}$ inches long, how long is the actual car? (<i>Proportion</i>)</p>

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Expressions & Equations – Skill Practice and Problem Solving

<p>1. What is the perimeter (distance around) of a triangle with sides the following lengths: $3a + 2c$, $5c + 9$, and $5a - 6$. <i>Simplify</i> the expression. (Collect like terms)</p>  <p>The diagram shows a triangle with three sides. The left side is labeled $5a - 6$, the bottom side is labeled $5c + 9$, and the right side is labeled $3a + 2c$.</p>	<p>2. Sam writes down two expressions that he believes represents the cost for a jacket that is marked down 30% of the regular price r when the sales tax is 8% of the markdown price. Which expression is correct?</p> <p>Expression A - $1.08(r - 0.30r)$ Expression B - $1.08r - 0.30r$</p>
<p>3. Mr. Murray is selling 6 identical hub caps and a car wheel for scrap. He knows each wheel weighs 19.5 pounds. He puts all of the items on a scale at the scrap yard and the total weight is 86 pounds. Write and solve an equation to find the weight of each hub cap.</p>	<p>4. Solve for x: (Do to one side, do to the other)</p> $\frac{x}{3} - 6.2 = 9$
<p>5. Newcastle Middle School is having a carnival. Admission into the carnival is \$2 and each game costs \$1.50. Write and solve an inequality that represents the possible number of games that can be played with \$20. (Inequality uses $<$ instead of $=$)</p>	<p>6. Randy earns \$14.50 per hour for the first 40 hours worked in a week and \$21.75 per hour for hours over 40. Last week Randy earned \$667. Write and solve an equation to find the time in hours that Randy worked over 40 hours last week.</p>
<p>7. Solve the inequality.</p> $-4x + 15 < -21$	<p>8. Colin earns \$207 in a week at his part time job. He works 3 shifts a week and each shift is 6 hours long. How much does Colin earn each hour? (Equation)</p>

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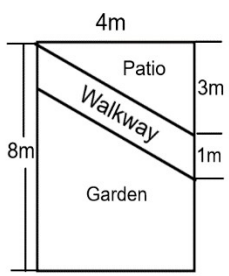
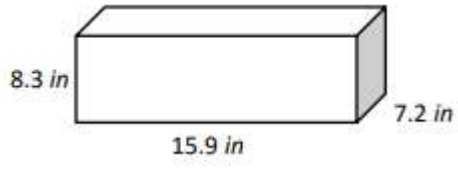
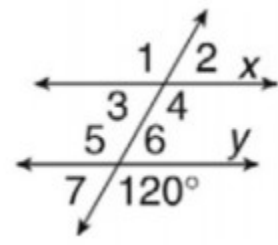

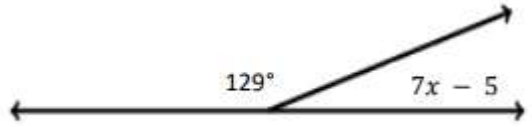
Statistics & Probability – Skill Practice and Problem Solving

<p>1. Korie wants to know the average arrival time of the students at her school. She arrives late one morning at 8:30 and records the arrival times of the students that arrive between 8:30 and 9:00. Explain why Korie's sample is not a true representative sample.</p>	<p>2. What is the probability of rolling a number that is smaller than 3 on a number cube? <i>(Show as a Fraction)</i></p>										
<p>3. A spinner is divided into 4 sections using the colours red, orange, yellow and green. After 50 trials, the spinner landed on red 10 times, orange 16 times, yellow 6 times and green 18 times. What would you estimate as the probability of the spinner <u>not</u> landing on yellow? <i>(Show as a Fraction)</i></p>	<p>4. There are 1 400 students at Whitney Middle School. A random sample of 50 students contains 7 students with a pet dog. About how many students in the school have a pet dog? <i>(Think of equivalent fractions)</i></p>										
<p>5. Find the mean (average), median (middle), and mode (repeat) of the following data in the ages of tourists to the Heritage Park: 58, 35, 43, 24, 40, 32, 43, 20, 29, 16</p>	<p>6. A bag contains orange, purple and blue marbles. If a marble is selected at random from the bag, the probability it is orange is 0.2, the probability it is purple is 0.3 and the probability it is blue is 0.5. Which colour marble is most likely to be selected? Explain <i>(decimal=percent)</i></p>										
<p>7. Matthew surveyed 120 students at school about lunch preferences.</p> <table border="1" data-bbox="142 1696 448 1976"><tr><td>Pizza</td><td>48</td></tr><tr><td>Burger</td><td>30</td></tr><tr><td>Sandwich</td><td>24</td></tr><tr><td>Salad</td><td>12</td></tr><tr><td>Other</td><td>6</td></tr></table> <p>A – What food item got <u>about</u> 50% of all votes? B - ...exactly 25% of votes? C- ...twice as many votes as Salad? D - ...half as many votes as Salad?</p>	Pizza	48	Burger	30	Sandwich	24	Salad	12	Other	6	<p>8. A diner offers a lunch special. Customers have a choice of a sandwich (chicken, turkey, veggie), a side (an apple, chips), and a drink (water, juice). What is the probability of a customer randomly choosing a combination package that has chips and juice? <i>(Tree Diagram)</i></p>
Pizza	48										
Burger	30										
Sandwich	24										
Salad	12										
Other	6										

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Geometry – Skill Practice and Problem Solving

<p>1. A frying pan has a diameter of 7 inches. What is the area to the nearest square inch of the smallest cover that will fit on top of the frying pan? ($A = \pi r^2$)</p>	<p>2. Mr. Ward has a rectangular backyard that has dimensions as shown. He added a walkway which divides the backyard into a triangular patio and a garden that is in the shape of a trapezoid. What is the Area for the Patio? What is the Area of the Garden?</p> <div style="text-align: right;">  </div>
<p>3. The window in Sydney's dining room is a semicircle. The straight side of the window is 36 inches. What is the perimeter of the window? ($C = \pi d$)</p>	<p>4. A blueprint shows a layout of a building. Every 4 inches in the blueprint represents 7 feet of the actual building. One of the walls on the blueprint is 28 inches long. What is the length of the actual wall? (12 inches = 1 foot)</p>
<p>5. What is the volume of the right rectangular prism shown in the figure? ($V = l \times w \times h$)</p> <div style="text-align: center;">  </div>	<p>6. Line x is parallel to line y. Find the measure of $\angle 1$ and $\angle 6$. (straight angle is $= 180^\circ$)</p> <div style="text-align: center;">  </div>
<p>7. A jack-in-the-box is a cube that has a side length of 15 cm and it is made out of cardboard. What is the volume of the jack-in-the-box when the lid is closed? ($V = l \times w \times h$) How much cardboard is needed? (Surface Area)</p> <div style="text-align: center;">  </div>	<p>8. The angles below are supplementary. Find the value of x. (supplementary angles $= 180^\circ$)</p> <div style="text-align: center;">  </div>

Word Problems - Answer Sheet

No.	The Number System	Ratios & Proportional Relationships	Expressions & Equations	Statistics & Probability	Geometry
1					
2					
3					
4					
5					
6					
7					
8					