

Topic: Problem Solving	
Object: Develop advanced problem-solving skills by applying mathematical concepts to real-world situations and complex mathematical puzzles.	
1	<p>My mom is 38 and my dad is 46 years old. If my dad was born in 1978, what is the year that my mom was born?</p> <p>Difference = $46 - 38 = 8$ Year = $1978 + 8 = 1986$</p>
2	<p>I have 10 meters of material. I need to cut lengths of 30 centimeters. How many complete lengths can I cut? How much will be left over?</p> <p>10 meters = 1000 centimeters, $1000 \div 30 = 33.33$ The number of complete length = 33</p>
3	<p>A plank measures 1 meter 50 centimeters. I cut off $\frac{2}{5}$ of the plank. How long is the plank now?</p> <p>1 meter 50 centimeters = 150 centimeters $(1 - \frac{2}{5}) * 150 \text{ centimeters} = 90 \text{ centimeters}$</p>
4	<p>Peter went swimming. Each length of the pool was 50 m long. He swam 6 lengths. How many lengths more does he have to swim so that he has swum 500 m in total?</p> <p>Total swam = $6 * 50 = 300 \text{ m}$ Remaining = $500 - 300 = 200 \text{ m}$</p>
5	<p>What is the cost of 4.5kg of sugar if it costs 25¢ per 500g?</p> <p>4.5 kg = 4500 gram $4500/500 = 9$ $9 * 25¢ = 225¢$</p>
6	<p>Delilah has $4\frac{1}{2}$ pies to divide equally among 9 people. How much will each person get?</p> <p>$4\frac{1}{2} \div 9 = \frac{1}{2}$</p>
7	<p>I want to make 12 cakes. If I know that 6kg of flour is enough for 36 cakes, how much flour will I need?</p> <p>$\frac{12}{36} * 6 = 2$</p>
8	<p>Bob is 20cm taller than Sandy. Sandy is 15 cm shorter than Alan. Alan is 1m 15cm tall. How tall is Bob? How tall is Sandy?</p> <p>Sandy: $1\text{m } 15\text{cm} - 15 \text{ cm} = 1 \text{ m}$ Bob: $1 \text{ m} + 20 \text{ cm} = 1\text{m } 20 \text{ cm}$</p>



9	<p>The state of Colorado is nearly rectangular. It is about 589 kilometers by 456 kilometers. What is the approximate perimeter of Colorado?</p> <p>Perimeter = $2(589+456) = 2090$ kilometers</p>
10	<p>Jessica wants to put a fence around her 12.5 foot by 15 foot rectangular garden. How many feet of fencing will she need?</p> <p>Total fence = perimeter = $2(12.5+15) = 55$ feet</p>
11	<p>David wants to carpet part of her bedroom that is shaped like a right triangle with base 4.6 meters and height 3.8 meters.</p> <p>How much carpet will she need?</p> <p>Area = $\frac{1}{2} * 4.6 * 3.8 = 8.74 m^2$</p>
12	<p>If a snail travels 3mm in 5 minutes, how far will it travel in half an hour?</p> <p>Half hour = 30 minutes</p> <p>Distance = $\frac{30}{5} * 3 = 18 mm$</p>

