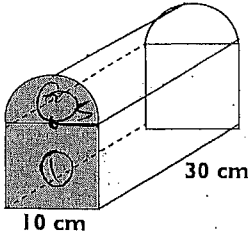
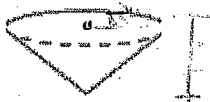
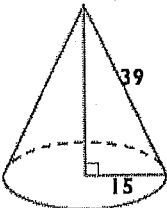






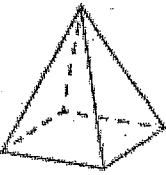
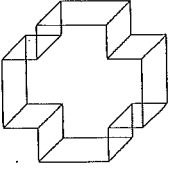

Questions	Working	Answer	Marks
<p>9. This regular prism has an end which is a <b>semi-circle</b> joined to a <b>square</b>. Find the <b>shaded</b> end area and hence find the prism's <b>volume</b>, correct to <b>(1) decimal place</b>. Each side of the square is <b>10 cm</b>.</p> 	<p>End Area =</p> <p>Volume =</p>	<p>a) End area =</p> <p>b) Volume =</p>	<p>2</p> <p>2</p>
<p>10. The cone shaped storage tank below is completely filled with grain. All units are in metres. Top <b>radius</b> is <b>5m</b> and <b>height</b> is <b>3m</b></p>  <p>Find the volume of the tank to the nearest <math>m^3</math>. Note: The volume of a cone is given by: <math>V = \frac{1}{3}\pi r^2 h</math></p>		Volume of Cone =	2
<p>11. Find the <b>height</b> of the cone (to the nearest cm) Slant height = 39 cm Base Radius = 15 cm</p> 		Height =	2

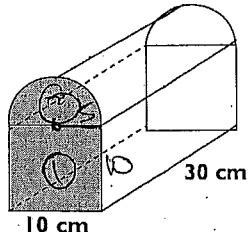
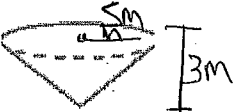
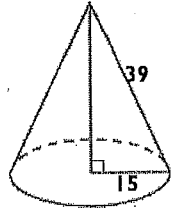
Name: \_\_\_\_\_  
Teacher: \_\_\_\_\_

**SECTION 2: SHORT ANSWER QUESTIONS**

RATIOS			
Questions	Working	Answer	Marks
<p>1. A jar has <del>red and blue</del> lollies. If there are <b>6 red</b> for every <b>5 blue</b> lollies in the jar: a) Find how many <del>green</del> lollies if there are <b>65 blue</b>. <del>b) Find how many red lollies if the total number of red and green lollies in the jar is 132.</del></p>	<p>a)</p> <p>b)</p>	<p>a)</p> <p>b)</p>	<p>1</p> <p>1</p>
<p>2. a) If you mix <b>7½ cups</b> of flour with <b>2½ cups</b> of milk, what is the ratio of flour to milk in its <b>simplest form</b>? b) If you mix <b>25 grams</b> of salt with every <b>kilogram</b> of meat; what is the simplified ratio of salt to meat?</p>	<p>a)</p> <p>b)</p>	<p>a)</p> <p>b)</p>	<p>2</p> <p>1/2</p>
<p>3. A rectangle has a length of <b>10 cm</b> and a breadth of <b>5 cm</b>. Find the simplified ratio of the <b>length</b> to the <b>perimeter</b>.</p>			2
<p>4. The lengths of the sides of a triangle are in the ratio <b>2:3:4</b>. If the <b>perimeter</b> of the triangle is <b>45 cm</b>, find the length of the <b>shortest side</b>.</p>			2
<p>5. Express <b>20 minutes</b> to <b>4 hours</b> as a ratio in its <b>simplest form</b>.</p>			2




Questions	Working	Answer	Marks
<p>6. Find the <b>volume</b> of this pyramid if its <b>base area</b> is <math>12.5 \text{ cm}^2</math> and height is <math>5 \text{ cm}</math>.</p>  <p>Formula <math>V = \frac{1}{3} A \times h</math></p>	$\frac{1}{3} \times 12.5 \times 5$ $= 20.83 \text{ cm}^3$	<p>Volume =</p> $V = 20.83 \text{ cm}^3$	2
<p>7. a) What is the capacity, in millilitres, of this solid, if its volume is <math>600 \text{ cm}^3</math>?</p>  <p>b) Convert this capacity to Litres.</p>	<p>A) = 600 ml</p> <p>B) = 0.6 L</p>	<p>a) 600 ml</p> <p>b) 0.6 L</p>	1
<p>8. Find the <b>volume</b> of the hemisphere below, to one decimal place, if the <b>diameter</b> is <math>12 \text{ cm}</math>.</p> <p><b>Note: The volume of a sphere is given by:</b></p> $V = \frac{4}{3} \pi r^3$ 	$\frac{4}{3} \times \pi \times 6^3 \div 2$ $= 452.39 \text{ cm}^3$	<p>Volume =</p> $V = 452.39 \text{ cm}^3$	2

Questions	Working	Answer	Marks
<p>9. This regular prism has an end which is a <b>semi-circle</b> joined to a <b>square</b>. Find the <b>shaded</b> end area and hence find the prism's <b>volume</b>, correct to 1 decimal place. Each side of the square is <math>10 \text{ cm}</math>.</p> 	<p>End Area =</p> $\textcircled{1} = 10 \times 10 = 100$ $+ \frac{1}{2} \pi r^2 = \frac{1}{2} \pi \times 5^2 = 39.27$ $= 139.27 \text{ cm}^2$ <p>Volume =</p> $A \times h = 139.27 \times 30 = 4178.1 \text{ cm}^3$	<p>a) End area =</p> <p>b) Volume =</p> $V = 4178.1 \text{ cm}^3$	2
<p>10. The cone shaped storage tank below is completely filled with grain. All units are in metres. Top <b>radius</b> is <math>5 \text{ m}</math> and <b>height</b> is <math>3 \text{ m}</math></p>  <p>Find the volume of the tank to the nearest <math>\text{m}^3</math>. Note: The volume of a cone is given by:</p> $V = \frac{1}{3} \pi r^2 h$	$\frac{1}{3} \times \pi \times 5^2 \times 3$ $= 78.54 \text{ cm}^3$	<p>Volume of Cone =</p> $V = 78.54 \text{ cm}^3$	2
<p>11. Find the <b>height</b> of the cone (to the nearest cm) Slant height = <math>39 \text{ cm}</math> Base Radius = <math>15 \text{ cm}</math></p> 	<p>Pythagoras</p> <p>Area</p> $a^2 + b^2 = c^2$	<p>Height =</p> $39^2 - 15^2$ $\sqrt{\text{ANS}}$ $h = 36 \text{ cm}$	2

Name: \_\_\_\_\_  
Teacher: \_\_\_\_\_

**SECTION 2: SHORT ANSWER QUESTIONS**

RATIOS			
Questions	Working	Answer	Marks
<p>1. A jar has <del>red</del> <sup>green</sup> and green lollies. If there are <del>6</del> <sup>65</sup> green <del>red</del> <sup>blue</sup> for every 5 blue marbles in the jar:</p> <p>a) Find how many green lollies if there are 65 blue.</p> <p>b) Find how many red lollies if the total number of red and green lollies in the jar is 132.</p>	<p>a) <math>6:5</math> ratio <math>6 \div 5 = 1.2 \times 65</math> <math>= 78</math> ✓</p> <p>b) <del>Working</del></p>	<p>a) _____</p> <p>b) _____</p>	<p>(1)</p> <p>1</p>
<p>2. a) If you mix <math>7\frac{1}{2}</math> cups of flour with <math>2\frac{1}{2}</math> cups of milk, what is the ratio of flour to milk in its simplest form?</p> <p>b) If you mix 25 grams of salt with every kilogram of meat; what is the simplified ratio of salt to meat?</p>	<p>a) <math>7.5:2.5</math> <math>= 7.5 \div 2.5 = 3:1</math> ✓</p> <p>b) <math>0.25:1</math> X <math>= \frac{1}{4}</math> (m) or <math>1:40</math> ✓</p>	<p>a) _____</p> <p>b) <math>25g : 1000g</math> <math>1:40</math></p>	<p>(2)</p> <p><math>\frac{1}{2}</math></p> <p>2</p>
<p>3. A rectangle has a length of 10 cm and a breadth of 5 cm. Find the simplified ratio of the length to the perimeter.</p>	 <p><math>10:30</math> <math>= 1:3</math> or <math>1:3</math></p>	<p>length : perimeter <math>10 : 30</math> X <math>1 : 3</math></p>	<p>2</p>
<p>4. The lengths of the sides of a triangle are in the ratio 2:3:4. If the perimeter of the triangle is 45 cm, find the length of the shortest side.</p>	<p><math>2:3:4</math></p> <p><math>\triangle 45:3</math></p> <p><math>= 45 \div 9 = 5</math></p> <p><math>2=10, 3=15, 4=20</math></p>	<p>∴ shortest side <math>= 10\text{cm}</math>. ✓</p>	<p>(2)</p> <p>2</p>
<p>5. Express 20 minutes to 4 hours as a ratio in its simplest form.</p>	<p><del>Working</del></p> <p><math>= 1:12</math> ✓</p> <p>or <math>\frac{1}{12}</math></p>	<p>_____</p>	<p>(2)</p> <p>2</p>