ISLEWORTH & SYON BOYS SCHOOL

YEAR 7 - LEVEL 2 NUMBER & MEASURE

PERSONAL

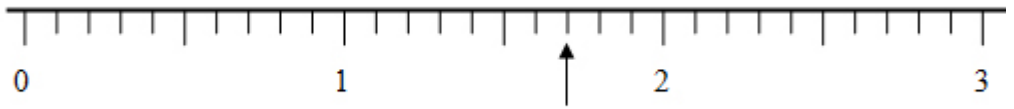
LEARNING

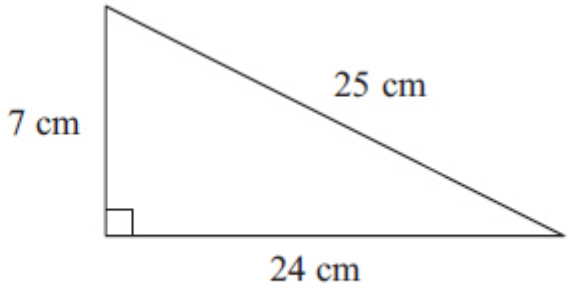
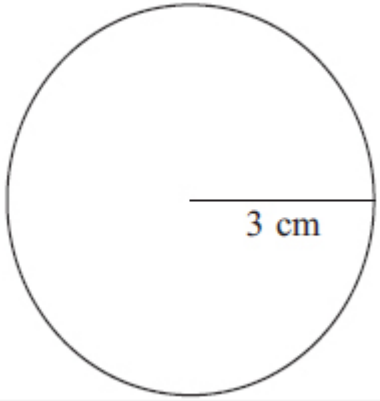
CHECKLIST

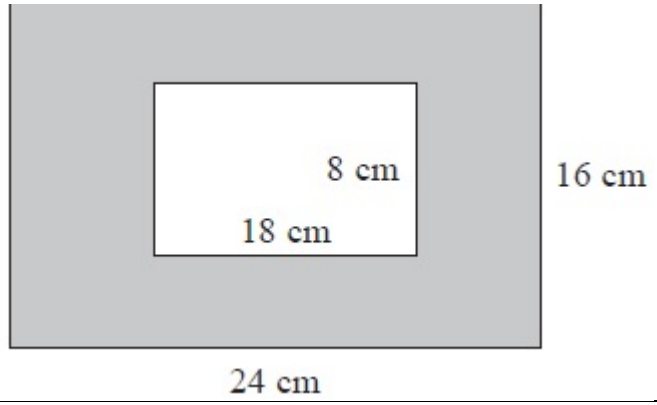
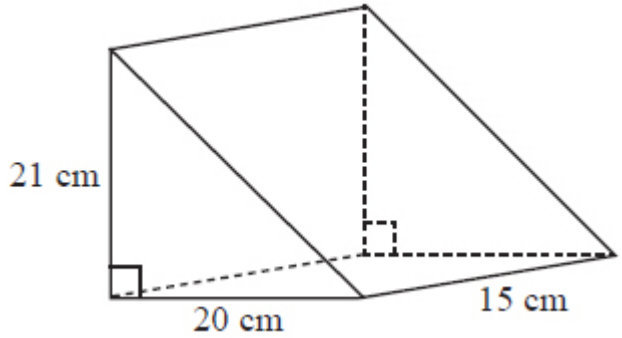
In addition to knowing the content of the Level 1 qualification, a Level 2 students needs to be able to demonstrate the skills in the following table.

Skill	Example question	Can I do it?	I CAN do it now!
Integers			
Read, write, order and compare positive and negative integers of any size	(a) Write these numbers in order of size. Start with the smallest number. $-2 \quad +3 \quad +2 \quad -4 \quad 0$		
Add, subtract, multiply and divide integers of any size	Work out $3689 + 56\,298 - 12\,389$		
Multiply and divide using negative integers	(d) Work out -5×-4 (d) Work out $\frac{-20}{-5}$		
Find the Highest Common Factor and Lowest Common Multiple of any two positive integers	Work out the Highest Common Factor (HCF) of 36 and 60 Find the Lowest Common Multiple (LCM) of 20 and 24.		
Read, write and use squares, cubes and square roots	Use a calculator to (a) Find the value of $\sqrt{3.24}$ (b) Find the value of 4^5		
Read, write and use index notation for small positive integer powers	(a) Find the value of $4^4 \times 4^3$ Give your answer as an ordinary number.		
Decimals			
Multiply decimals with up to two decimal places (two digit multiplier and divisor for non-calculator section)	Work out 3.45×2.7 Work out $324.7 \div 1.6$		
Round decimals to two decimal places	(b) Write 54.748 correct to 2 decimal places.		
Add and subtract any decimal	Work out $34.56 + 4.5 + 123 - 82.79$ (a) Work out $-12 - -4.1$ (b) Work out $-2.8 + -7.2$		

Approximation			
Check solutions to questions and problems by using suitable approximations	An answer of 466 has been given to the calculation $\frac{7.8 \times 29.3}{0.49}$ Use suitable approximations to check whether this answer is sensible.		
Fractions			
Multiply fractions, including mixed numbers	(b) Work out $1\frac{5}{6} \times \frac{3}{5}$ Give your answer as a mixed fraction in its simplest form.		
Divide fractions, including mixed numbers, using a calculator	Work out $8\frac{1}{10} \div 2\frac{1}{2}$		
Add and subtract fractions with different denominators and mixed numbers	(a) Work out $3\frac{3}{4} + 1\frac{1}{2}$ Give your answer as a mixed fraction in its simplest form.		
Use fractions to compare quantities	(a) Which is bigger, $\frac{1}{4}$ of 80 or $\frac{1}{3}$ of 45?		
Express one number as a fraction of another	Write 43 cm as a fraction of 3 m.		
Percentages			
Find percentages of quantities of any value	Work out 14% of 300 Which is bigger $\frac{3}{4}$ of 60 or 70% of 64? You must show your working.		
Calculate percentage increase and decrease	A play-pit contains sand. More sand is put into this play-pit. The weight of sand increases from 50 kg to 55 kg. What is the percentage increase in the weight of sand?		
Express one number as a percentage of another	(b) Work out 75 centimetres as a percentage of 6 metres.		

Ratio and proportion			
Use direct proportion in simple problems	Simon buys 5 identical pens for £8 How much would 8 of these pens cost?		
Use ratio notation	In a class of 30 students there are 14 boys and 16 girls. Write down the ratio of the number of boys to the number of girls. Give your answer in its simplest form.		
Divide a quantity into 2 or 3 parts in a given ratio	Ben and Gerry share £54 in the ratio of 5: 4 Work out how much each of them get.		
Money			
Convert between currencies	Jo changed £350 into dollars ($). The exchange rate was £1 = $1.35. (a) Work out how many dollars Jo got.		
Calculate simple interest	£500 is invested for 3 years at 4% Simple Interest. Work out the total amount of interest paid at the end of 3 years.		
Calculate wages and salaries, including national insurance and tax deductions	Peter makes circuit boards. For up to 30 circuit boards, he earns £2.50 for each circuit board he makes in a day. When he makes more than 30 circuit boards in any day, he earns £2.75 for every extra circuit board he makes. One day he makes 45 circuit boards. He pays £23.20 tax on what he earns for the day. How much does he get to keep for the day's work?		
Measures			
Read decimal scales	 Write down the number marked with the arrow.		
Convert between metric and imperial units eg 5 miles = 8 km 12 inches= 1 foot = 30 cm 2.2 pounds = 1 kg 8 pints = 1 gallon = 4.5 litres	*You need to learn the facts, e.g. 8 km = 5 miles* Change 77 pounds into kilograms. Change 120 miles into kilometres.		

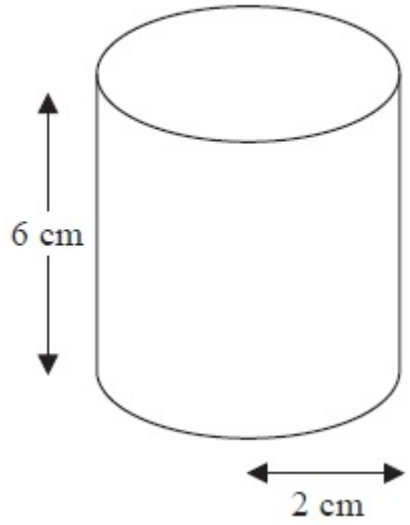
Area and perimeter			
Work out the area and perimeter of rectangles, triangles, circles and semi-circles	 (a) Work out the perimeter of the triangle. (b) Work out the area of the triangle. A circle has a radius of 3 cm. Work out the area of the circle.  Work out the circumference of the circle		

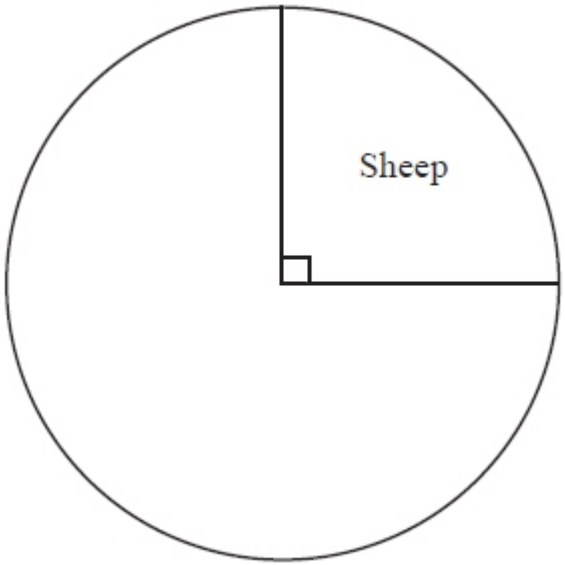
Work out areas of composite shapes made from of rectangles, triangles, circles and/or semi-circles	Here is a rectangle inside a rectangle. Work out the area of the shaded region.  		
Volume			
Volumes of prisms and cylinders	Here is a triangular prism. Work out the volume of the prism  		

Here is a cylinder.

The cylinder has a height of 6 cm and a radius of 2 cm.

Work out the volume of this cylinder.



Tables and charts			
Draw and interpret pie charts and frequency tables	This table shows the numbers of each type of animal on Bill's farm. **Type of animal** / **Frequency** Hens 40 Cows 60 Sheep 45 Goats 10 Geese 25 The number of sheep are shown on the incomplete pie chart.  Complete the pie chart.		