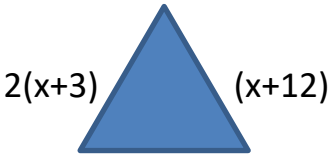
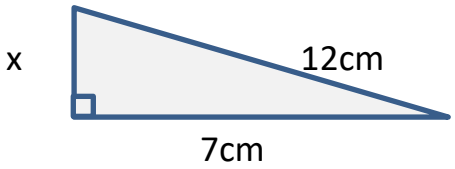
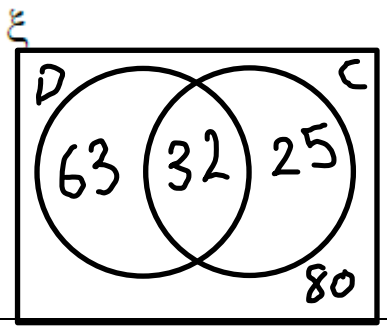
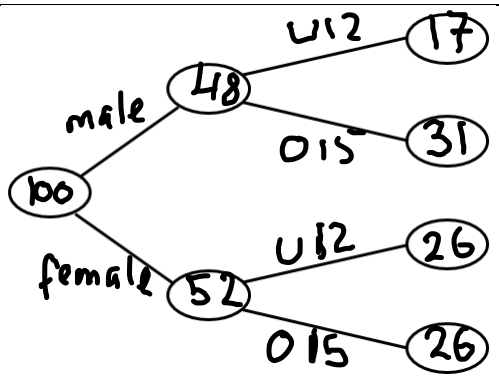
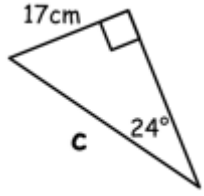
Higher/Foundation Topic

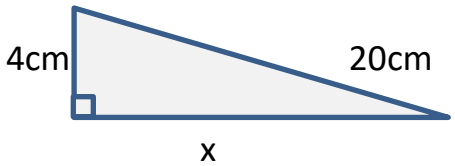
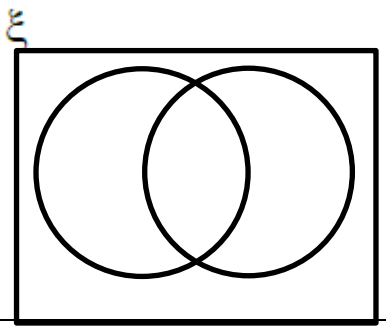
ANSWERS

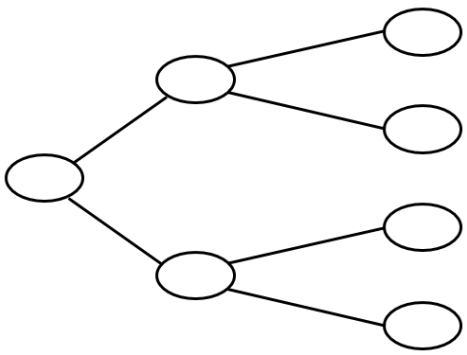
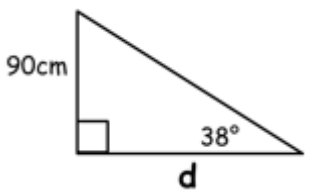
Week 3

Q	Question	Answer
1	The four possible outcomes of an experiment are A, B, C and D. P(A) = 0.2 2P(A) = P(B) 3P(C)=P(D) Work out P(C)	P(A)=0.2 P(B)=0.4 P(C)=0.1 P(D)=0.3
2	Work out $(5.1\times10^{-3})\times(3.2\times10^{5})$ Give your answer in **standard form**	1.632×10^{3}
3	The diagram shows an equilateral triangle.  Work out the perimeter of the shape.	2x+6=x+12 x=6 length = 18 Perimeter = 54
4	The volume of a sphere is $\frac{4}{3}\pi r^3$ Work out the **volume of a sphere** with a radius of 2.5cm to 3 sf	$65.4cm^3$
5	Calculate the length of x to 2dp  	$12^2-7^2=x^2$ $95=x^2$ 9.75=x
6	A group of 200 Year 7 students are asked if they own a dog or a cat. 32 own both a dog and a cat; 25 students only have a cat; 95 students own a dog. Produce a **Venn diagram** to represent this situation.	

7	There are 100 members of a swimming club. 48 of the members are male. 17 of the male members are under 12, the rest are over 15. 26 of the female members are under 12, the rest are over 15 Complete the **frequency tree**	
8	A and B are different routes. The time and distance for each is Route A 25 minutes for 50,000m Route B 2hours for 238km Which route has the highest **average speed**? **Show your working**	A = 50÷25/60 = 120kmph B = 238÷2 = 119kmph Therefore Route A has the highest average speed.
9	James invests £6000 in a bank account with a **compound interest** rate of 1.25%. Write a calculation that would give you the amount he has after 8 years.	$6000x(1.0125)^8$
10	A baker supplies bread rolls to a catering company. Bread rolls are sold in packs of 24 for £1.99. The company want 500 rolls each day. How much will the bill be for one week, assuming they do not work on Sundays?	500/24=20.833=21packs 21x1.99x6=£250.74
11	Solve the **simultaneous equations** X+3y=7 2x-y=7	X=4, y=1
12	 Calculate the missing side of the triangle.	Sin24=17/c C=41.80cm
Total out of 12		

Foundation/Higher Skills 4: Work your way through the 12 Questions and I will post the answers next weekend, along with the skills 5 task.

Q	Question	Answer
1	The four possible outcomes of an experiment are A, B, C and D. P(A) = 0.1 2P(A) = P(B) 4P(C)=3P(D) Work out P(C)	
2	Work out $(5.7\times10^{8})\times(4.4\times10^{-5})$ Give your answer in **standard form**	
3	The diagram shows a square. 5(x-2)  3(x+4) Work out the area of the square	
4	The volume of a sphere is $\frac{4}{3}\pi r^3$ Work out the **volume of a sphere** with a radius of 5cm to 1 sf	
5	Calculate the length of x to 2dp  	
6	A group of 50 children are asked if they like drinking fruit juice (F) or milk (M) for their school lunch. 13 students said they like both drinks; 11 only like milk and 20 children like drinking fruit juice.	

	Complete the **Venn diagram**	
7	78 people sat their driving test. 43 are male, out of these 32 pass. 8 females fail their driving test Complete the **frequency tree**	
8	A cyclist leaves home at 7.30 for work, which is 9miles away. She travels at an average speed of 8mph for 30 minutes before stopping for 5 minutes to fix a puncture. She then cycles at 15mph for the remainder of the journey. Will she arrive at work before 8.30? **Show your working**	
9	James invests £1000 in a bank account with a **compound interest** rate of 2.2%. After 2 years the rate changes to 3%. Calculate how much he has after 5 years.	
10	Howard spends £10 a day on food. In January this represented one quarter of his net income. How much net income did Howard receive in January?	
11	Solve the **simultaneous equations** 2x+3y=19 6x+2y=22	
12	 Calculate the missing side of the triangle.	
Total out of 12		