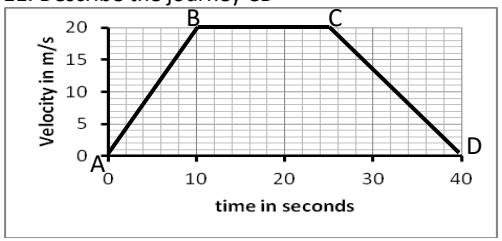
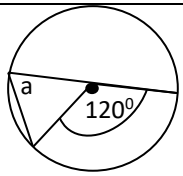
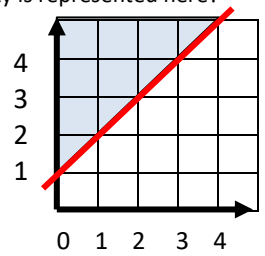
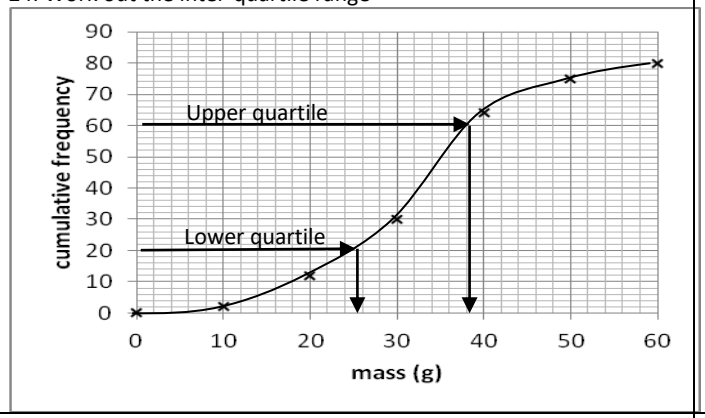
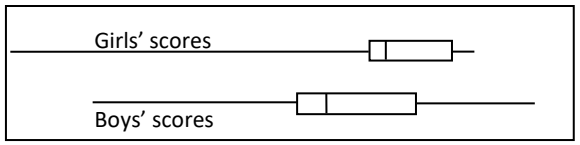
Maths Key Skills **Stage 10: Skill Check 7 Answers**

Name: ..... Date: ..... Class/Group: .....

A: Number & Algebra		B: Algebra, Proportion, Geometry & Measure		C: Geometry & Measure, Statistics & Probability	
1. Write the answer in standard form $(6.2\times10^2)+(9.45\times10^3)$	*10:1* **620+9450 =10070 1.007×10^4**	11. Describe the journey CD 	*10:13* **Constant Deceleration $\frac{4}{3}$ m/s² or Acceleration -4/3 m/s²**	21. Cuboids A & B are similar The SA of A & B are 60cm²& 1500cm² The volume of A = 40cm³. What is the volume of B?	*10:26* 40×5^3 **5000cm³**
				22. Angle a = 60⁰ Give the reason 	*10:19* **Angle at centre = 2xangle at circum**
2. Estimate to 1dp the value of $\sqrt{58}$	*10:2* **7² = 49 8² = 64 7+9/15 ≈7.6**	12 What inequality is represented here? 	*10:14* **y≥x+1**	23. A box contains 10 batteries. On testing 3 of them are found to be dead. If two batteries are chosen from the box of 10, what is the probability of choosing two dead ones?	*10:28* $\frac{3}{10}\times\frac{2}{9}=\frac{1}{15}$
				24. Work out the inter-quartile range 	*10:29* 38-25 **=13g**
3. Evaluate: $16^{3/2}$	*10:3* $(\sqrt{16})^3$=**64**	13. Find the nth term of this sequence: 2, 7, 14, 23, 34, 47	*10:15* **n^2+2n-1**		
4. Convert $0.\dot{2}\dot{7}$ to a fraction	*10:4* **27/99**	14. The nth term of a geometric sequence is $\sqrt{2}^n$. What is the 5th term?	*10:16* **$4\sqrt{2}$**		
5. With 12 flavours of ice-cream, 4 different cones & 3 different toppings, how many combinations?	*10:5* **12x4x3= 144**	15. The population of a village is 3720 and decreasing at a rate of 3.5% per year. What will be the population in 5 years time?	*10:17* **3720×0.965^5 ≈3113**		
6. Expand: $(x-3)^3$	*10:6*	16. **d = 40, L = 5** Find an equation for d in terms of L if d is directly proportional to the cube of L	*10:18* **$d=\frac{8L^3}{25}$**	25. The boys' box is longer than the girls. What does this say about the boys? 	*10:30* Boys are less consistent than the girls (middle 50%)
$(x-3)(x^2-6x+9) = x^3-6x^2+9x-3x^2+18x-27 = x^3-9x^2+27x-27$					
7. Factorise: $6x^2 + x - 12$	*10:7* **(3x-4)(2x+3)**	17. Give the length of arc diameter 10cm & angle 20⁰ in terms of π	*10:21* **5π/9 cm**		
8. Give the gradient of a line perpendicular to: x + y = 6	*10:8* **1**	18. Give the area of sector diameter 10cm & angle 20⁰ in terms of π	*10:22* **(25/18)πcm²**		
9. Work out the equation of a line joining (1,2) and (5,10)	*10:9* **y=2x**	19. Give the CSA of a cone of r= 5cm & perpendicular height 12cm in terms of π. (CSA = πrl) l=slant height	*10:23* **65π cm²**		
10. Work out the roots of the quadratic graph with the equation **$x^2-3x+2=0$**	*10:12* **x=2 and 1**	20. Give the volume of a cone of radius 5cm & perpendicular height 12cm in terms of π. (V= ⅓πr²h) h=perpendicular height	*10:24* **100π cm³**		
Total (A)		Total (B)		Total (C)	
Test Total (A+B+C)		R (0-9)	Y (10-19)	G (20-25)	