Maths Key Skills **Stage 10: Skill Check 4 Answers**

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

A: Number & Algebra

1. Write the answer in standard form: $(6x10^5)-(1x10^4)$ — *10:1* 590000 **$5.9x10^5$**

2. Estimate to 1dp the value of: $\sqrt[3]{85}$ — *10:2* **4+21/61 ≈4.4**

3. Evaluate: $9^{-½}$ — *10:3* **⅓**

4. Convert the recurring decimal to a fraction: $0.\dot{6}\dot{2}\dot{8}$ — *10:4* **628/999**

5. How many different labels can be made using a letter & a number using letters A,B,C,D & numbers 0,1,2,3,4,5,6? — *10:5* **4x7 =28**

6. Expand: (y+3)(y+1)(y-1) — *10:6* **$(y+3)(y^2-1) = y^3 – y + 3y^2 - 3$**

7. Factorise: $2x^2 – 7x + 6$ — *10:7* **(2x-3)(x-2)**

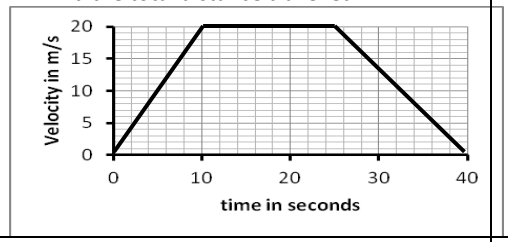
8. Give the gradient of a line perpendicular to: y= ⅓x–1 — *10:8* **-3**

9. Work out the equation of a line passing through (2,1) & (-1,-8) — *10:9* **y=3x-5**

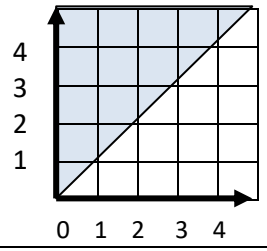
10. Work out the roots of the quadratic graph with the equation **$x^2 + x – 2 = 0$** — *10:12* **x=-2&1**

B: Algebra, Proportion, Geometry & Measure

11. Find the total distance travelled. — *10:13* **100 +300 +150 =550m**



12. What inequality is represented here? — *10:14* **y≥x**



13. Find the nth term of this sequence: 2, 6, 12, 20, 30, 42, ... — *10:15* **$n^2 + n$**

14. Find the 5th term of the geometric sequence: **2, 2√3, 6, ...** — *10:16* **18**

15. Espresso coffee contains 75mg of caffeine. In the body its levels decrease by 15% per hour. How much is left after 4h? — *10:17* **$75x0.85^4$ =39.2mg**

16. **x = 3, y = 18** Find an equation for y in terms of x if y is directly proportional to x^2 — *10:18* **$y=2x^2$**

17. Give the length of arc radius 3cm & angle 40^0 in terms of π — *10:21* **⅔π cm**

18. Give the area of sector radius 3cm & angle 40^0 in terms of π — *10:22* **π cm^2**

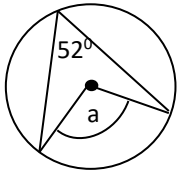
19. Give the curved surface area of a cone of r= 6cm & slant height 7cm in terms of π (CSA = πrl) l=slant height — *10:23* **42π cm^2**

20. Give the volume of a cone of radius 8cm & perpendicular height 8cm in terms of π.(V= ⅓πr^2h) h=perpendicular height — *10:24* **512π/3**

C: Geometry & Measure, Statistics & Probability

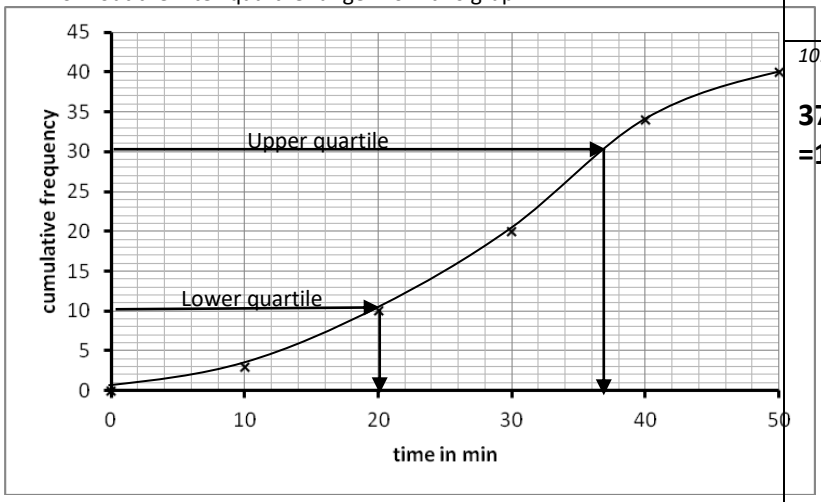
21. A shape has an area of $16cm^2$. What is the area of a shape which is ½ the corresponding lengths of it? — *10:25* **$4cm^2$**

22. The angle a = 104^0 Give the reason. — *10:19* **Angle at centre =2x angle at circum.**

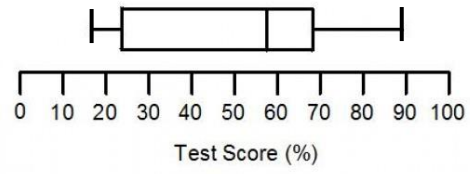


23. A bag has 4 black balls and 2 white balls. Work out the probability that if 2 are chosen at random, they will both be black — *10:28* 4/6x3/5 =**2/5**

24. Work out the inter-quartile range from this graph — *10:29* **37-20 =17min**



25. Estimate the inter-quartile range from this box plot — *10:30* ≈69-23 =**46%**



Total (A)		Total (B)		Total (C)	
Test Total (A+B+C)		R (0-9)	Y (10-19)	G (20-25)	