Maths Key Skills **Stage 10: Skill Check 5 Answers**

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

A: Number & Algebra

1. Write the answer in standard form

$(2x10^4)x(7x10^3)$

10:1 **$1.4x10^8$**

2. Estimate the value of

2.78^4

10:2 **$\approx 3^4$**
$=81$

3. Evaluate: $4^{3/2}$

10:3 $(\sqrt{4})^3$
$=2^3=$**8**

4. Convert $0.4\dot{5}$ to a fraction

10:4 **41/90**

5. At a Pizza shop, there is deep or thin base and a topping from 6 choices. How many combinations?

10:5 **2x6**
=12

6 Expand: $(x+5)(x-2)^2$

10:6
$(x+5)(x^2-4x+4)=x^3-4x^2+4x+5x^2-20x+20$
$= x^3+x^2-16x+20$

7. Factorise: $32 - 2x^2$

10:7 **$2(4-x)(4+x)$**

8. Give the gradient of a line perpendicular to: $y-3x=2$

10:8 **$-\frac{1}{3}$**

9. Work out the equation of a line joining (4,5) & (8,3)

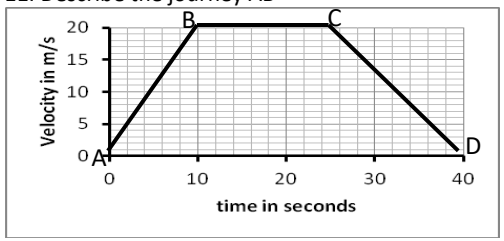
10:9 **$y=-\frac{1}{2}x+7$**

10. Work out the roots of the quadratic graph with the equation **$x^2 + 5x + 6 = 0$**

10:12 **$x=-3$ & -2**

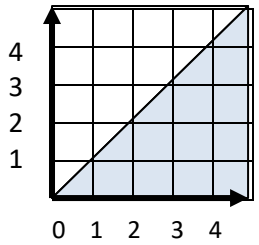
B: Algebra, Proportion, Geometry & Measure

11. Describe the journey AB



10:13 **Constant Acceleration**
$2m/s^2$

12. What inequality is represented here?



10:14 **$y \leq x$**

13. Find the nth term of this sequence:

0, 2, 6, 12, 20, 30 .....

10:15 **n^2-n**

14. Give the next two terms of this geometric sequence: 3, 3√5, 15, 15√5, ..., ...

10:16 **75, 75√5**

15. The population of a village of 5940 is increasing by 5% per annum. Work out the population in 2 years time.

10:17 **$5940x1.05^2$**
≈ 6549

16. **m = 3, n = 16**
Find an equation for m in terms of n if m is inversely proportional to √n

10:18 **$m=\frac{12}{\sqrt{n}}$**

17. Give the length of arc radius 6cm & angle 150^0 in terms of π

10:21 **5π cm**

18. Give the area of sector radius 6cm & angle 150^0 in terms of π

10:22 **15π cm^2**

19. Give the curved surface area of a cone of r= 4cm & slant height 8cm in terms of π.
(CSA = πrl) l=slant height

10:23 **32π cm^2**

20. Give the volume of a cone of radius 3cm & perpendicular height 5cm in terms of π
($V= \frac{1}{3}\pi r^2 h$) h=perpendicular height

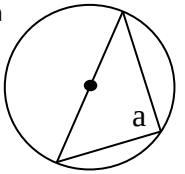
10:24 $\frac{1}{3}x\pi x3^2x5$
15π cm^3

C: Geometry & Measure, Statistics & Probability

21. $48cm^3$ of clay were used to make a model. How much clay would be needed to make one ½ the size of the corresponding lengths?

10:26 **$6cm^3$**

22. What is the size of angle a? Give a reason



10:19 **90^0**
Angle in a semi-circle = 90^0

23. Here is a table of the right & left hand students in a class
Work out the probability that a person chosen at random will be:
Male, given that he is right handed i.e. p(M|R)

	Right-handed **(R)**	Left-handed **(L)**	Total
Male (M)	8	3	11
Female (F)	5	2	7
Total	13	5	18

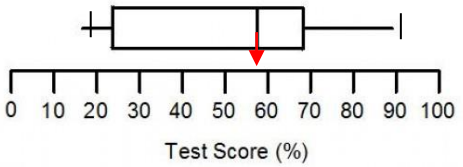
10:28 **8/13**

24. Complete the cumulative frequency table

Height	frequency	Height	Cumulative frequency
170≤h<175	5	170≤h<175	5
175≤h<180	18	170≤h<180	23
180≤h<185	12	170≤h<185	35
185≤h<190	4	170≤h<190	39
190≤h<195	1	170≤h<195	40

10:29

25. Estimate the median from this box plot



10:30 **≈58%**

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