

Maths Key Skills

Stage 10: Skill Check 10 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 $(6 \times 10^7) \times (3 \times 10^{-2})$	10:1 1.8×10^6	11. Interpret the line AB 	10:13 Constant velocity of 6m/s	21. A logo 1.2cm high covers 3.5cm ² A similar logo covers 14cm ² . Give the height of this similar one?	10:26 Sf=2 H=2.4cm
2. Estimate to 1dp the value of $\sqrt{130}$	10:2 $11^2 = 121$ $12^2 = 144$ $(11+9/23)$ ≈ 11.4	12. What inequality is represented here? 	10:14 $y \geq 2$	22. The angle $a = 59^\circ$ Give the reason.	10:19 Opposite angles of cyclic quad add up to 180°
3. Evaluate: $27^{-2/3}$	10:3 $\frac{1}{9}$	13. Find the nth term of this sequence: -4, -1, 4, 11, 20, 31	10:15 $n^2 - 5$	23. A box contains 10 batteries. On testing be dead. If two batteries are chosen from probability that one is good and the other	$\frac{7}{10} \times \frac{3}{9} + \frac{3}{10} \times \frac{7}{9}$ $= \frac{21}{90} + \frac{21}{90} = \frac{42}{90} = \frac{7}{15}$
4. Convert 0.213 to a fraction	10:4 $\frac{211}{990}$	14. What is the common ratio for this geometric sequence? $\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}, \dots$	10:16 $\frac{1}{2}$	24. Work out the median score. 	10:29 ≈ 31
5. If an ordinary dice is rolled 3 times. How many possible outcomes are there?	10:5 $6 \times 6 \times 6 =$ 216	15. £10 000 is invested in a savings bond at 4% per annum. What will the bond be worth after 3 years?	10:17 10000×1.04^3 £11248.64	25. Write down an estimate for the inter-quartile range from this box plot. 	10:30 33-25 = 8
6. Expand: $(x+4)(x+2)(x-1)$	10:6 $(x+4)(x^2+x-2)$ $= x^3 + x^2 - 2x + 4x^2 + 4x - 8$ $= x^3 + 5x^2 + 2x - 8$	16. $x = 1, y = 10$ Find an equation for y in terms of x if y is inversely proportional to x^2	10:18 $y = 10/x^2$	26. A box contains 10 batteries. On testing be dead. If two batteries are chosen from probability that one is good and the other	
7. Factorise: $5x^2 + 9x - 2$	10:7 $(5x - 1)(x + 2)$	17. Find the angle of an arc length 2π & $d = 10$ cm	10:21 72°	27. Give the area of sector radius 13cm & angle 150° (correct to 3sf)	10:22 221 cm^2
8. Give the gradient of a line perpendicular to: $y = 3x - 5$	10:8 $-\frac{1}{3}$	18. Give the CSA of a cone of diameter 6cm and slant height 10cm in terms of π . (CSA = $\pi r l$) l=slant height	10:23 $\pi \times 3 \times 10$ $= 30\pi \text{ cm}^2$	28. Give the volume of a cone of diameter 10cm & slant height 13cm in terms of π . ($V = \frac{1}{3}\pi r^2 h$) h=perpendicular height	10:24 $\frac{1}{3} \times \pi \times 5^2 \times 12$ $= 100\pi \text{ cm}^3$
9. Give the equation of the graph passing through (1,7) & (-2,4)	10:9 $y = x + 6$	Total (A)		Total (B)	
10. Work out the roots of the quadratic graph with the equation: $x^2 + 6x + 5 = 0$	10:12 $x = -1 \& -5$	Total (C)		Total (D)	
Test Total (A+B+C)		R (0-9)		Y (10-19)	
				G (20-25)	

