

Maths Key Skills

Stage 9: Skill Check 11- Answers

Name:

Date:

Class/Group:

A: Number & Algebra		B: Proportion, Geometry & Measure		C: Geometry & Measure, Statistics & Probability								
1. Write 0.25×10^7 in standard form	9:1 2.5×10^6	11. Work out the interest on £70 over 4 years at 3% simple interest	9:13 £8.40	21. 25 pupils in a class 11 have a dog 16 have a cat 5 have neither Complete the Venn diagram	9:27							
2. Write 0.5×10^{-3} in standard form	9:1 5×10^{-4}	12. An increase of 22% raises the rent to £61. What was the original rent?	9:14 £50									
3. 3.75m has been rounded to nearest cm Express the limits in the form $a \leq x < b$	9:2 $3.745 \leq x < 3.755$	13. Volume 5m^3 Mass 44800kg What is the Density?	9:15 8960kg/m^3									
4. Factorise: $x^2 - 7x + 12$	9:4 $(x-4)(x-3)$	14. Which is correct? - Circle A is proportional to B A is inversely proportional to B	9:16	22. Fran plays a game of tennis & a game of snooker	9:28							
5. If $-1 \leq x \leq 6$, show the solution for x on the number line	9:5 	15. The two shapes are similar. Find x 	9:17 Sf = $12.5 \div 5 = 2.5$ $x = 7 \times 2.5 = 17.5\text{cm}$									
6. Make 'x' the subject of the equation $t = \frac{x}{w} - y$	9:6 $x = w(t+y)$	16. Work out the AREA of the semi-circle (to 3sf) 	9:18 $\pi \times 4.5^2 \div 2 = 31.8\text{cm}^2$	23. From the Venn diagram, work out the probability of choosing a person at random who has both a cat and a dog	9:28 7/25							
7. Solve the equation: $\frac{y+2}{3} - \frac{y+1}{4} = 2$	9:7 $y=19$	17. Work out the curved surface area of a cylinder with $r=7\text{m}$ & $h=4\text{m}$ (3sf)	9:20 $2\pi r h = 176\text{m}^2$	24. Sketch a line to show the shortest possible distance from the point to the line	9:26							
8. Write down the equation of a line parallel to $2y - 4x = 13$	9:8 $y = 2x \pm c$	18. What additional information is needed for SSS congruency? 	9:21 DA = TQ									
9. Write an equation for this line 	9:9 $C = 5 + 4D$	19. 	9:22 $\sqrt{5^2 + 4^2} = 6.4\text{cm}$	25. A survey is to be carried out on a sample of a company's staff. How should the sample of people to do the survey be decided? Here is the make-up of the company.	9:29							
10. Evaluate $y^3 - 3y$ when $y = 4$	9:12 $64 - 12 = 52$	20. Complete the sentence $\tan x = \frac{3}{4}$	9:23	<table border="1"> <tr> <td>Office staff</td> <td>48</td> <td rowspan="3">} Total 398</td> </tr> <tr> <td>Shop floor staff</td> <td>326</td> </tr> <tr> <td>Canteen staff</td> <td>24</td> </tr> </table>	Office staff	48	} Total 398	Shop floor staff	326	Canteen staff	24	
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Total (A)		Total (B)		Total (C)								
Test Total (A+B+C)		R (0-9)		Y (10-19)								
				G (20-25)								

Take a proportion of each group e.g. 10% or 1/5
OR for an exact number in a sample e.g. 50:
Work out: $48/398 \times 50 = 6$
(this is stratified sampling)

