

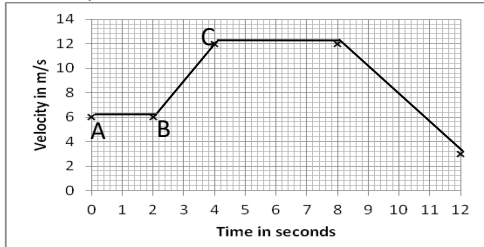
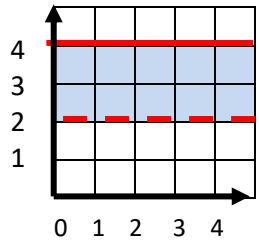
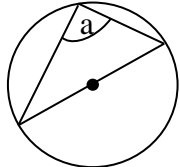

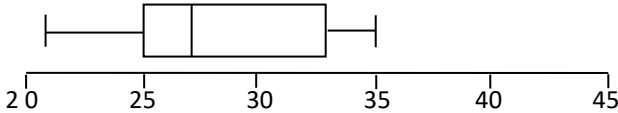


Maths Key Skills

Stage 10: Skill Check 11

Name:

Date:

Class/Group:

A: Number & Algebra		B: Algebra, Proportion, Geometry & Measure		C: Geometry & Measure, Statistics & Probability																								
1. Write the answer in standard form $(3.42 \times 10^3) + (1.8 \times 10^2)$	10:1	11. Interpret the line BC 	10:13	21. X & Y are similar solids. The surface area of X is 450cm^2 & of Y is 800cm^2 . The volume of X is 1350cm^3 . What is the volume of Y?	10:26																							
2. Estimate the value of: 9.87^4	10:2	12. What inequality is represented here? 	10:14	22. The angle $a = 90^\circ$ Give the reason 	10:19																							
3. Evaluate: $8^{-\frac{2}{3}}$	10:3	13. Find the nth term of this sequence: $-3, 3, 13, 27, 45, 67 \dots$	10:15	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: female, given that she is right-handed i.e. $p(F R)$	10:28																							
4. Convert $0.4\dot{5}$ to a fraction.	10:4	14. The first term of a geometric sequence is 5 and the common ratio is $-\sqrt{2}$. Work out the first 3 terms.	10:16	<table border="1"> <thead> <tr> <th></th> <th>Right-handed (R)</th> <th>Left-handed (L)</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Male (M)</td> <td>8</td> <td>3</td> <td>11</td> </tr> <tr> <td>Female (F)</td> <td>5</td> <td>2</td> <td>7</td> </tr> <tr> <td>Total</td> <td>13</td> <td>5</td> <td>18</td> </tr> </tbody> </table>		Right-handed (R)	Left-handed (L)	Total	Male (M)	8	3	11	Female (F)	5	2	7	Total	13	5	18	10:29							
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5. There 5 entrances to a building and 7 exits. How many different ways for an entry & an exit?	10:5	15. The value of a caravan depreciates by 12% per year. Work out the current value of a caravan bought 3 years ago for £14000. 	10:17	24. Complete the cumulative frequency table <table border="1"> <thead> <tr> <th>Age (A in years)</th> <th>frequency</th> <th>Age (A in years)</th> <th>cf</th> </tr> </thead> <tbody> <tr> <td>$15 \leq A < 25$</td> <td>4</td> <td>$15 \leq A < 25$</td> <td></td> </tr> <tr> <td>$25 \leq A < 35$</td> <td>11</td> <td>$15 \leq A < 35$</td> <td></td> </tr> <tr> <td>$35 \leq A < 45$</td> <td>13</td> <td>$15 \leq A < 45$</td> <td></td> </tr> <tr> <td>$45 \leq A < 55$</td> <td>15</td> <td>$15 \leq A < 55$</td> <td></td> </tr> <tr> <td>$55 \leq A < 65$</td> <td>7</td> <td>$15 \leq A < 65$</td> <td></td> </tr> </tbody> </table>	Age (A in years)	frequency	Age (A in years)	cf	$15 \leq A < 25$	4	$15 \leq A < 25$		$25 \leq A < 35$	11	$15 \leq A < 35$		$35 \leq A < 45$	13	$15 \leq A < 45$		$45 \leq A < 55$	15	$15 \leq A < 55$		$55 \leq A < 65$	7	$15 \leq A < 65$	
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6. Expand: $(x-3)(x+2)^2$	10:6	16. $x = 0.16, y = 4$ Find an equation for y in terms of x if y is directly proportional to \sqrt{x}	10:18	25. Write down an estimate for the range from this box plot. 																								
7. Factorise: $8x^2 - 29x + 15$	10:7	17. Find the angle of an arc length π and a diameter of 8cm	10:21																									
8. Give the gradient of a line perpendicular to: $3x + 2y = 6$	10:8	18. Give the area of sector radius 9cm & angle 58° (correct to 2sf) 	10:22																									
9. Work out the equation of a line joining (2,0) & (0,3)	10:9	19. Find the CSA of a cone of diameter 10cm and slant height 7cm in terms of π . (CSA = $\pi r l$) l=slant height	10:23																									
10. Work out the roots of the quadratic graph with the equation: $x^2 + x - 12 = 0$	10:12	20. Give the volume of a cone of radius 8cm & slant height 10cm in terms of π . ($V = \frac{1}{3}\pi r^2 h$) h=perpendicular height 	10:24																									
Total (A)		Total (B)		Total (C)																								
Test Total (A+B+C)		R (0-9)	Y (10-19)	G (20-25)																								