

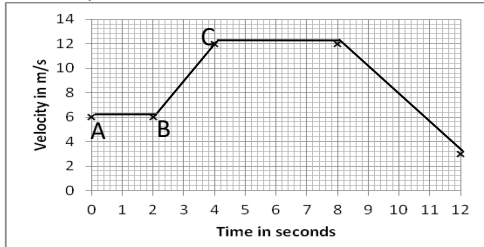

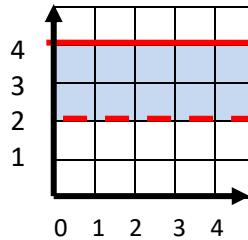
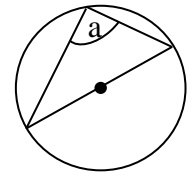



# Maths Key Skills

# Stage 10: Skill Check 11 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 $(3.42 \times 10^3) + (1.8 \times 10^2)$	10:1 $3420 + 180$ <b><math>= 3.6 \times 10^3</math></b>	11. Interpret the line BC 	10:13 <b>Constant acceleration at <math>3\text{m/s}^2</math></b>	21. X & Y are similar solids. The surface area of X is $450\text{cm}^2$ & of Y is $800\text{cm}^2$ . The volume of X is $1350\text{cm}^3$ . What is the volume of Y? 	10:26 $S_f = 4/3$ <b><math>3200\text{cm}^3</math></b>																
2. Estimate the value of: $9.87^4$	10:2 $\approx 10^4$ <b><math>= 10000</math></b>	12. What inequality is represented here? 	10:14 <b><math>2 &lt; y \leq 4</math></b>	22. The angle $a = 90^\circ$ Give the reason 	10:19 <b>Angle in a semi-circle = <math>90^\circ</math></b>																
3. Evaluate: $8^{-2/3}$	10:3 <b><math>1/4</math></b>	13. Find the nth term of this sequence: <b><math>-3, 3, 13, 27, 45, 67 \dots</math></b>	10:15 <b><math>2n^2 - 5</math></b>	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 <b><math>5/13</math></b>																
4. Convert $0.4\overline{5}$ to a fraction.	10:4 <b><math>41/90</math></b>	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 <b><math>5, -5\sqrt{2}, 10</math></b>	<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	<b><math>10:29</math></b>
	Right-handed (R)	Left-handed (L)	Total																		
Male (M)	8	3	11																		
Female (F)	5	2	7																		
Total	13	5	18																		
5. There 5 entrances to a building and 7 exits. How many different ways for an entry & an exit?	10:5 <b><math>35</math></b>	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 $14000 \times 0.88^3$ <b><math>\pounds 9540.61</math></b>																		
6. Expand: $(x-3)(x+2)^2$	10:6 $(x-3)(x^2+4x+4) = x^3+4x^2+4x-3x^2-12x-12 = x^3+x^2-8x-12$	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 <b><math>y = 10\sqrt{x}</math></b>																		
7. Factorise: $8x^2 - 29x + 15$	10:7 <b><math>(8x-5)(x-3)</math></b>	17. Find the angle of arc length $\pi$ & a diameter 8cm	10:21 <b><math>45^\circ</math></b>																		
8. Give the gradient of a line perpendicular to: $3x + 2y = 6$	10:8 <b><math>3/3</math></b>	18. Give the area of sector radius 9cm & angle $58^\circ$ (correct to 2sf) 	10:22 <b><math>41\text{cm}^2</math></b>																		
9. Work out the equation of a line joining (2,0) & (0,3)	10:9 <b><math>y = -3x + 3</math></b> <b><math>2</math></b>	19. Find the CSA of a cone of diameter 10cm and slant height 7cm in terms of $\pi$ . (CSA = $\pi r l$ ) l=slant height	10:23 $\pi \times 5 \times 7$ <b><math>= 35\pi \text{cm}^2</math></b>																		
10. Work out the roots of the quadratic graph with the equation: $x^2 + x - 12 = 0$	10:12 <b><math>x = -4 \text{ \&amp; \ } 3</math></b>	20. Give the volume of a cone of radius 8cm & slant height 10cm in terms of $\pi$ . ( $V = \frac{1}{3}\pi r^2 h$ ) h=perpendicular height 	10:24 $\frac{1}{3} \times \pi \times 8^2 \times 6$ <b><math>= 128\pi \text{cm}^3</math></b>																		
<b>Total (A)</b>		<b>Total (B)</b>		<b>Total (C)</b>																	
<b>Test Total (A+B+C)</b>		<b>R (0-9)</b>	<b>Y (10-19)</b>	<b>G (20-25)</b>																	