

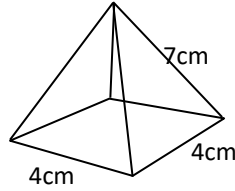
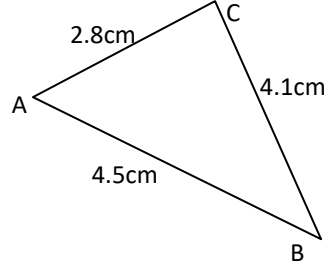
Maths Key Skills

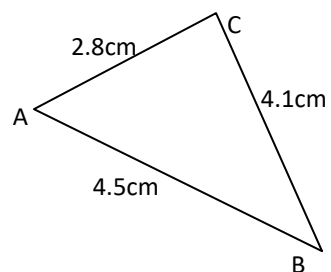
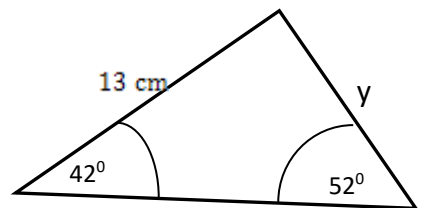
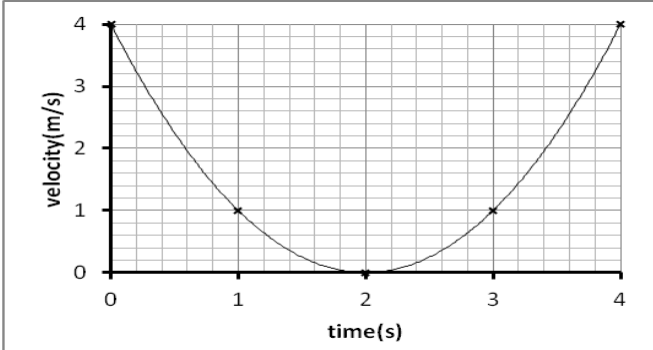
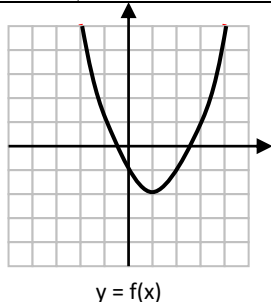
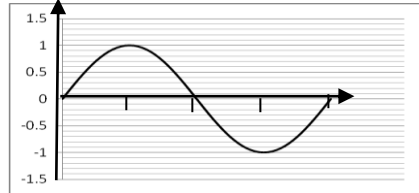
Name:

Date:

Stage 11: Skill Check 3

Class/Group:

A: Number & Algebra		B: Algebra, Proportion, Geometry & Measure		C: Geometry & Measure & Statistics	
1. Simplify: $2\sqrt{3} \times \sqrt{3}$	11:1	11. Make (p) the new subject of : $4(p+3) = q(1-p)$	11:12	21. Work out the angle that base makes with the sloping face. (correct to 3sf)	11:26
2. Rationalise & simplify: $\frac{4}{3-\sqrt{2}}$	11:2	12. This the graph of $y = \sin x$ Give two solutions for $\sin x = 0.5$	11:14		
3. If $x=4.62(2dp)$ and $y=2.5(1dp)$ Work out maximum value of $x \div y$ correct to 1dp	11:3	13. Sketch on the grid: $y = f(x+1)$	11:15		
4. Simplify the following fraction: $\frac{m^2 - 4m - 21}{6m + 18}$	11:4	14. Estimate the total distance travelled.	11:16	23. Work out the size of angle A (3sf)	11:28
5. Solve: $\frac{1}{x-2} + \frac{2}{x+4} = \frac{1}{3}$	11:5	15. Write down the equation of the tangent at (-6,-8) on the circle $x^2+y^2 = 100$	11:18		



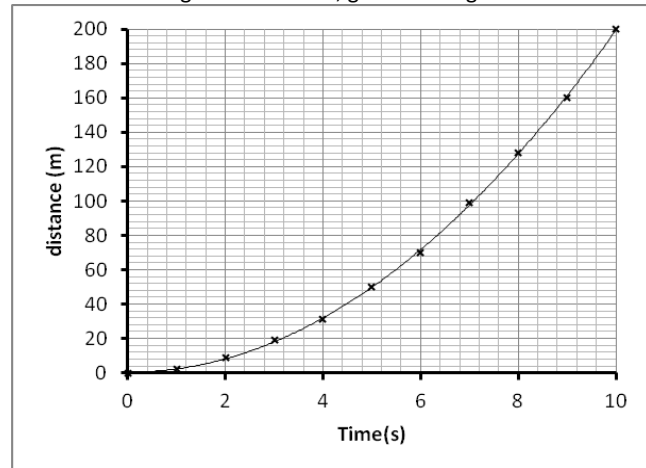
6. If $f(x) = x^2 - 4x$ and $g(x) = x+1$ work out: $f(g(x))$

11:7

7. Find the turning point of:
 $y = x^2 + 3x - 5$

11:8

16. Estimate the gradient at 6sec, give meaning & units



11:20



24. If $\overline{PQ} = -\frac{1}{2}\mathbf{a} + \frac{1}{2}\mathbf{b}$

and

$\overline{QR} = \frac{1}{2}(-3\mathbf{a} + \mathbf{b}) + \mathbf{b}$

Rearrange the vectors to demonstrate clearly that P, Q & R are in a straight line

11:29

8. Solve by completing the square:
 $x^2 - 4x + 1 = 0$
(Write down the EXACT values)

11:9

17. $x^3 + 3x - 7 = 0$ can be solved using the iteration



formula: $x_{n+1} = \sqrt[3]{7 - 3x_n}$

Start with $x_1 = 1$ and work out an approximation for x by finding x_5

11:21

25. Complete the table:

11:30

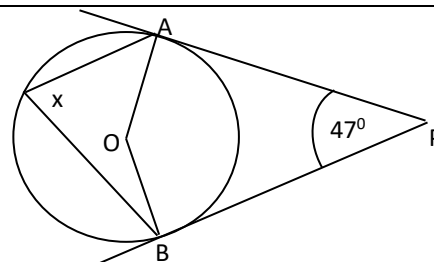
Height(hcm)	Frequency	Frequency Density
$65 < h \leq 75$	2	
$75 < h \leq 80$	7	
$80 < h \leq 90$	21	
$90 < h \leq 105$	15	
$105 < h \leq 110$	12	

9. To solve: $3x^2 + 2x = 2$ by formula, substitute the appropriate values.

11:10

+ $\sqrt{\text{input}}$

19. O is the centre. Work out angle x.

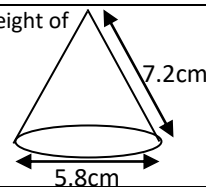


11:23

10. Write down the solution set for: $(x + 2)(x - 7) > 0$

11:11

20. Work out the perpendicular height of the cone.(1dp)



11:24

Total (A)

Total (B)

Total (C)

Test Total (A+B+C)

R (0-9)

Y (10-19)

G (20-25)