

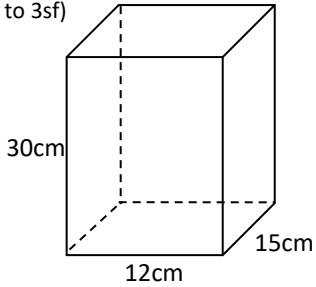
Maths Key Skills

Stage 11: Skill Check 14

Name:

Date:

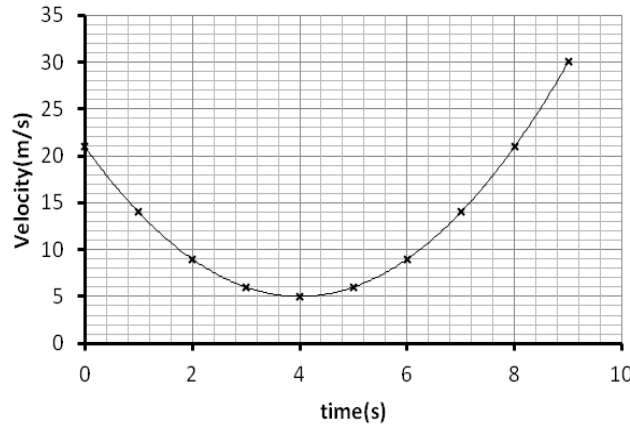
Class/Group:

A: Number & Algebra		B: Algebra, Proportion, Geometry & Measure		C: Geometry & Measure & Statistics	
1. Simplify: $2\sqrt{5}\sqrt{10}$	11:1	11. Make (m) the new subject of : $p = \frac{m^2+3}{m^2+2}$	11:12	21. Work out the angle that the diagonal makes with the base (correct to 3sf)	11:26
2. Expand & simplify: $(\sqrt{3}+\sqrt{2})^2$	11:2	12. This is the graph of $y = \cos x$ Give two solutions for $\cos x = 0.5$	11:14		
3. A sack contains 20kg of chicken pellets (to nearest kg). Each day the chickens are given 800g (to the nearest 10g). Work out the minimum number of days the pellets last?(to nearest day)	11:3	13. This is the graph of $y = f(x)$. Sketch on the grid: $y = f(x)+2$	11:15		
4. Simplify the following fraction: $\frac{2}{x+3} - \frac{5}{(x+3)^2}$	11:4	14. Estimate & interpret the area under the graph between 4 & 6s	11:16	22. Find the length 'x'? (1dp)	11:27
5. Solve: $\frac{x+5}{x-3} = x$	11:5	15. Write down the equation of the tangent at (5,2) on the circle with centre (4,4)	11:18	23. Find the length 'x'? (1dp)	11:28

6. If $f(x) = 3x^2 - 6x$
Solve $f(x) = 0$

11:7

16. Estimate & interpret the gradient of the tangent at 6s.



11:20

24.

$$\vec{AB} = \frac{2}{3}(3\mathbf{a} - \mathbf{b})$$

$$\vec{BD} = 2(\mathbf{b} - 3\mathbf{a})$$

What can you deduce from these two vectors?

11:29

7. Find the turning point of:
 $y = x^2 + 10x + 3$

11:8

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

11:9

17. $3x^2 - 4x - 7 = 0$ can be solved using the iteration

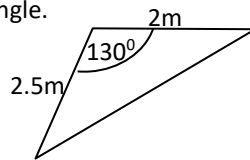
formula:

$$x_{n+1} = \sqrt{\frac{4x_n + 7}{3}}$$

Correct to 2dp

Start with $x_1 = 2$ & work out an approximation for x by finding x_4

18. Find the area of the triangle.
(Correct to 3sf)

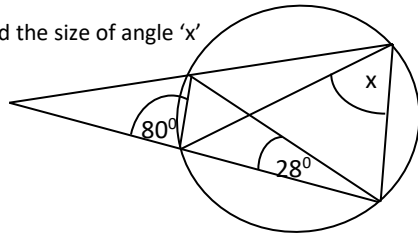


9. To solve: $6x^2 - 5x = 8$ by formula. Give answers in surd form.

11:10

$\pm \sqrt{\text{input}}$

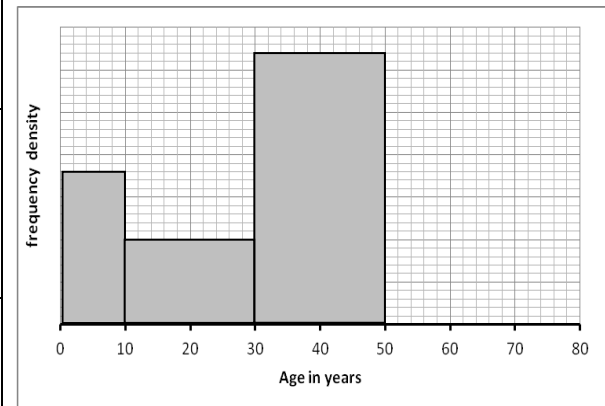
19. Find the size of angle 'x'



11:21

25. Complete the table & histogram:

11:30

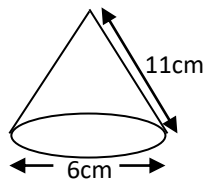


Age group	Frequency
$0 < n \leq 10$	18
$10 < n \leq 30$	
$30 < n \leq 50$	64
$50 < n \leq 80$	12

10. Write down the solution set for: $(x+2)(x-5) < 0$

11:11

20. Work out the perpendicular height of the cone.
(give answer in simplified surd form)



11:24

Total (A)

Total (B)

Total (C)

Test Total (A+B+C)

R (0-9)

Y (10-19)

G (20-25)