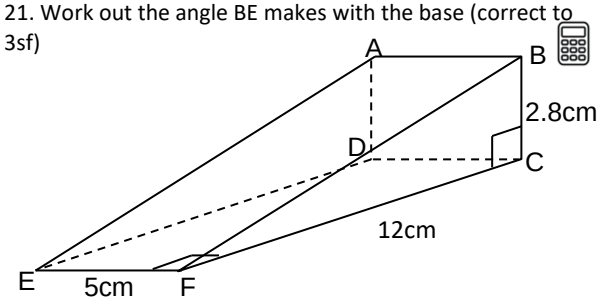
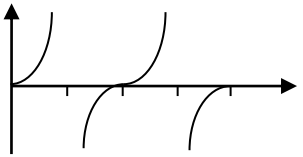
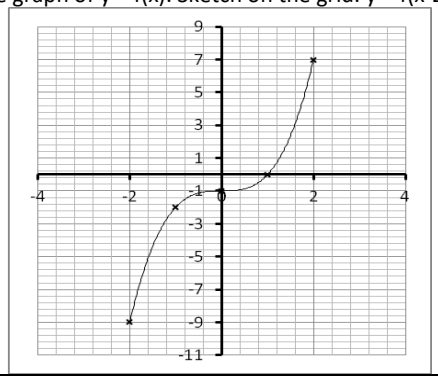
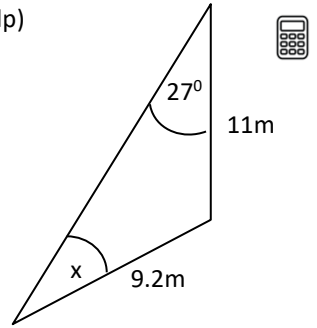
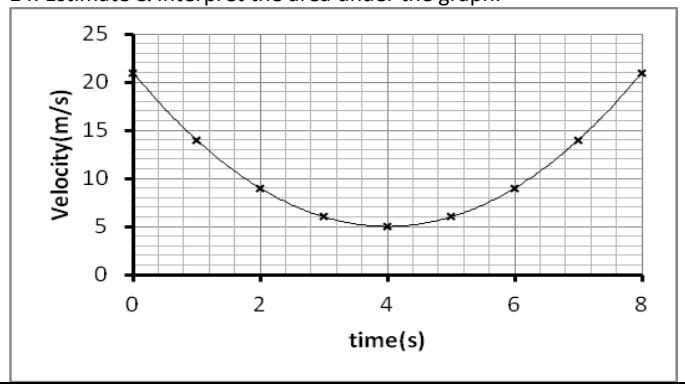
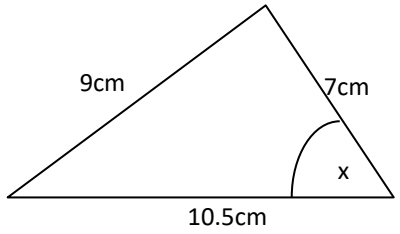
Maths Key Skills **Stage 11: Skill Check 13**

Name: ..... Date: ..... Class/Group: .....

A: Number & Algebra		B: Algebra, Proportion, Geometry & Measure		C: Geometry & Measure & Statistics	
1. Write **√50+√18** in the form k√2	*11:1*	11. Make (**t**) the new subject of : $S = \sqrt{\frac{t^2-3}{4}}$	*11:12*	21. Work out the angle BE makes with the base (correct to 3sf) 	*11:26*
2. Rationalise the denominator & simplify: $\frac{4}{2-\sqrt{2}}$	*11:2*	12. This is the graph of y = tanx Give TWO solutions for **tan x = 0** 	*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 maximum 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*	22. Find the angle 'x'? (1dp) 	*11:27*
4. Simplify the following fraction: $\frac{x+3}{x^2-4x} \times \frac{x}{(x+3)^2}$	*11:4*	14. Estimate & interpret the area under the graph. 	*11:16*	23. Find the angle 'x'? (3sf) 	*11:28*
5. Solve: $\frac{x-1}{x+3} = x$	*11:5*	15. Write down the equation of the tangent at (5,4) on the circle with centre (2,1)	*11:18*		

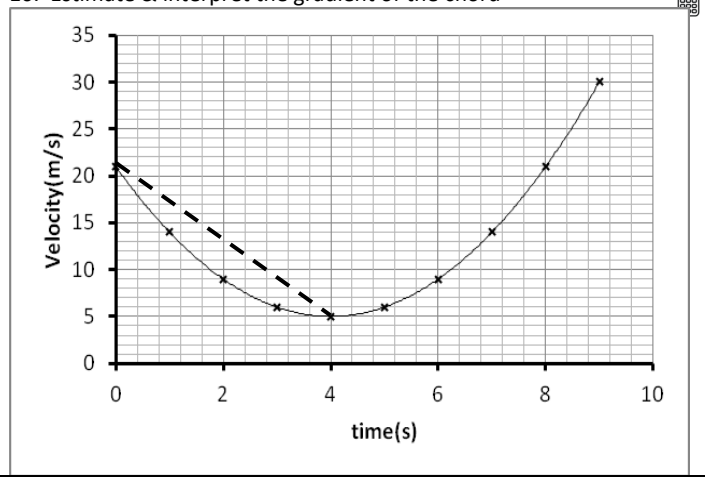
6. If $f(x) = 7-3x$
find $f^{-1}(x)$

11:7

7. Find the turning point of:
$y= x^2 - 10x + 11$

11:8

16. Estimate & interpret the gradient of the chord



11:20

24.
Simplify: $\overrightarrow{AB} = -\frac{2}{3}(a - b) + 2b$

11:29

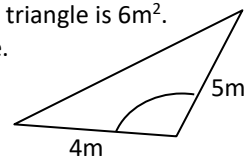
8. Solve by completing the square: $2x^2 + 8x - 12 = 0$
(Write down the EXACT values)

11:9

17. $x^2 - 5x - 3 = 0$ can be solved using the iteration formula: $x_{n+1} = \sqrt{5x_n + 3}$ Correct to 2dp
Start with $\mathbf{x_1 = 5}$ & work out an approximation for x by finding $\mathbf{x_5}$

11:21

18. The area of the triangle is $6m^2$.
Work out the angle.
(Correct to 3sf)



11:22

25. Complete the table for frequency density:

Scores	Frequency	Frequency density
$0 < n \leq 5$	8	
$5 < n \leq 15$	12	
$15 < n \leq 40$	20	
$40 < n \leq 50$	10	

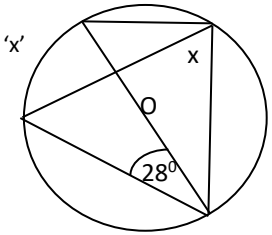
11:30

9. To solve: **$3x^2 - 6x = 5$** by formula. Give answers in surd form.

11:10

$\square \pm \sqrt{\square}$
$\square$

19. O is the centre.
Find the size of angle 'x'

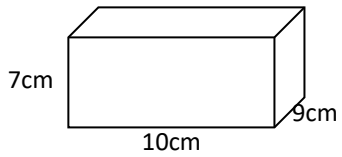


11:23

10. Write down the solution set for: $(x-4)(x+3) \geq 0$

11:11

20. Work out the length of the diagonal of the cuboid.(1dp)



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Total (A)		Total (B)		Total (C)	
Test Total (A+B+C)		R (0-9)	Y (10-19)	G (20-25)	