<b>RIG</b> by cdmasterworks Lt Numeracy for Learning, Life	And Work	December	<sup>,</sup> National <b>5</b> M abitofmaths	aths Calendar <mark>everyday</mark>	1 Multiply out the following brackets and simplify $(2x+5)(x-3) - 7x$
2 Solve the following system of equations 5x + 4y = 23 2x + 3y = 5	3 Write the following in the form $y = (x + a)^2 + b$ . $y = x^2 + 6x + 4$	An antique watch depreciates in value at a rate of 3.8% p.a. It was worth £400. How much will it be worth in 2 years time?	$5$ $2\frac{1}{2} \times 1\frac{3}{8}$	$\begin{array}{c} 6 & \text{Express the} \\ \text{following with} \\ 4 & \text{a rational} \\ \hline \sqrt{10} & \text{if required} \end{array}$	$\frac{7}{3n^{4} \times 4n^{2}} \frac{3n^{4} \times 4n^{2}}{6n^{5}}$
8 Add the following fractions $\frac{6}{(x-2)} - \frac{5}{(x+4)}$	9 Calculate the volume of 24 cm this cone	10 Evaluate 210003	11 Solve the following inequality $9 - 2x < 17$	<ul> <li>12 Calculate the semi-interquartile range for the following data set</li> <li>2, 5, 8, 10, 11, 11, 11, 14</li> </ul>	13 Calculate the missing area 2 m Area = ? $Area = 180 m^{2}$
14 Calculate the size of v and w	15 Calculate the equation of $H_{(30, 400)}$ the line of best A fit.	$\frac{16}{\text{Simplify}}$ $\sqrt{75} + \sqrt{3} - \sqrt{12}$	17 The diagram shows the parabola with equation; (-5, 100) $y = kx^2$ What is the value of k?	18 Change the subject of the formula to b $a = \frac{\sqrt{b} - 2}{3}$	<b>19</b> Factorise 3x <sup>2</sup> - 48
20 Express this fraction in it's simplest form $\frac{x^2 - 5x}{x^2 - 7x + 10}$	21 Calculate the standard deviation for the following data set 63, 65, 66, 67, 69	22 Solve $x^2 - 8x + 3 = 0$ giving your solutions to 1 decimal place	23 A function is defined as f(t) = 4t - 1 For what value of t does $f(t) = 11$ ?	24 Calculate the length of the missing side $64 \text{ m}$ $65^{\circ}$ $80 \text{ m}$	25 Round 25 122 017 to 2 significant figures.
<ul> <li>A pair of trainers are in the sales.</li> <li>The trainers are reduced by 20%. The trainers cost £23.20.</li> <li>How much did they cost before the sale?</li> </ul>	27 Solve the equation 5 cos $x^{\circ}$ + 2 = 1 for 0 $\leq x \leq 360$ .	28 Determine the gradient and the y-intercept of the following equation 3x - 2y = 4	29 Find the value of x	30 The area of this sector is 68.03 cm <sup>3</sup> .	31 Show that $sinxtanx = \frac{sin^2 x}{cosx}$