

JANUARY... A LITTLE BIT OF MATHS EVERY DAY

JustMaths

<p>1 Calculate</p> $3\frac{3}{7} - \frac{3}{5} = \frac{99}{35} - \frac{21}{35} = \frac{78}{35}$	<p>2 Factorise:</p> $4xy^2 + 2x^2y + 8xy = 2xy(2y + x + 4)$	<p>3 Solve</p> $\frac{2x + 6}{4} = 5$ $2x + 6 = 20$ $2x = 14$ $x = 7$	<p>4 Solve</p> $3x + 5 > x + 17$ $2x > 12$ $x > 6$	<p>5 Work out</p> <p>125% of £420</p> 525	<p>6 A garage has 50 cars for sale. 16 of the cars have air conditioning and ABS brakes. 32 of the cars have air conditioning. 18 of the cars have ABS brakes. Work out how many of the cars do not have air conditioning or ABS brakes.</p> <p>16</p>
<p>8 Write down the ratio 400grams:1.2kilograms in its simplest form</p> $\frac{400}{1200} = \frac{1}{3}$	<p>9 The density of zinc is 7 g/cm³. Calculate the mass of a cube of zinc with side Vol: 125000 cm³ 0.5m.</p> $875000g = 875kg$	<p>10 The price of a washing machine is reduced by 17.5% if the reduced price is £264 what was the original price?</p> $\frac{82.5\%}{£264} = \frac{100\%}{x}$ $x = £320$	<p>11 Calculate</p> $1\frac{2}{7} + 0.25 = \frac{43}{28} = 1\frac{15}{28}$	<p>12 What is the area of a circle with a diameter of 15 cm?</p> $r = 7.5cm$ $A = 176.71cm^2$	<p>13 The product of three numbers is 312. Two of the numbers are 3 and 13. What is the third number?</p> <p>8</p>
<p>15 The length, L cm, of a line is measured as 16 cm correct to the nearest centimetre. What is the error interval?</p> $15.5 \leq L < 16.5$	<p>16 Write 94 as a product of its prime factors.</p> 2×47	<p>17 Expand</p> $3x(2x - x) = 3x(2x) - 3x(x) = 3x^2 - 3x^2 = 0$	<p>18 What information must be given to describe a rotation?</p> <p>angle, direction and centre of rotation.</p>	<p>19 What is the value of y when x = -3 in y = x² + x - 4</p> $y = 9 - 3 - 4 = 2$	<p>20 Christian saves 10p and 20p coins. He has three times as many 10p coins as 20p coins. He has a total of £17. How many 10p coins does he have?</p> <p>102</p>
<p>22 Madison and Vinnie share some money in the ratio 2:5. What fraction of the total does Vinnie have?</p> $\frac{5}{7}$	<p>23 Write</p> 164×10^3 <p>in standard form</p> 1.64×10^5	<p>24 Make t the subject of:</p> $s = 1 - 2t$ $2t = 1 - s$ $t = \frac{1-s}{2}$	<p>25 List the prime numbers between 30 and 50</p> <p>31, 37, 41, 43, 47</p>	<p>26 What is the sum of 4th prime number and the 5th cube number?</p> $13 + 125 = 138$	<p>27 A circle has a radius of 8 cm, what is its circumference?</p> $D = 16 \quad C = 16\pi \text{ cm} \approx 50.27 \text{ cm}$
<p>29 The area of a rectangle is 100cm². The length of the rectangle is 4 times its width. Work out the width of the rectangle.</p> $4x \times x = 100$ $x^2 = 25$ $x = 5$ <p>width = 5cm length = 20cm</p>	<p>30 Mel says the range is 4. Is Mel correct?</p> <p>10, 11 is 8 - 1 = 7</p> <p>31 REMEMBER: The best way to revise maths is to "do Maths"!</p>				