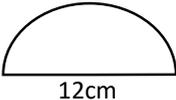
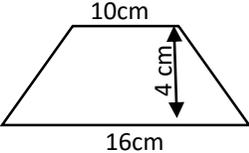
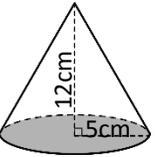
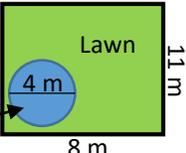
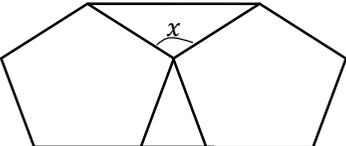


Final Countdown Higher Revision Mat 2

| <p>1) Solve</p> $x^2 - 7x + 12 = 0$ | <p>2) Evaluate</p> 3^{-2} | <p>3) Calculate the perimeter.</p>  | <p>4) The equation of a line is $y = 3x + 5$. A line parallel passes through the point $(2, 5)$.</p> <p>What is the equation of the parallel line?</p> | <p>5) A car originally cost £12,000 and depreciates in value at a rate of 3.5% per annum. What is the value of the car after 5 years?</p> | | | | | | | | |
|--|--|--|---|---|------------------|----|-------------------|---|--|--|---|---|
| <p>6) Estimate the mean height.</p> <table border="1" data-bbox="109 411 462 608"> <thead> <tr> <th>Height (cm)</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>$60 < h \leq 70$</td> <td>8</td> </tr> <tr> <td>$70 < h \leq 90$</td> <td>17</td> </tr> <tr> <td>$90 < h \leq 100$</td> <td>5</td> </tr> </tbody> </table> | Height (cm) | Frequency | $60 < h \leq 70$ | 8 | $70 < h \leq 90$ | 17 | $90 < h \leq 100$ | 5 | <p>7) Hamza has two sports events on Saturday. The probability of him winning football is 0.6. The probability of him winning tennis is 0.3. What is the probability of him losing both games?</p> | <p>8) Find a solution for x to one decimal place using trial and improvement when x lies between 3 and 4.</p> $x^2 - x = 11$ | <p>9) Calculate the perimeter of the isosceles trapezium.</p>  | <p>10) Rationalise</p> $\frac{3}{\sqrt{5}}$ |
| Height (cm) | Frequency | | | | | | | | | | | |
| $60 < h \leq 70$ | 8 | | | | | | | | | | | |
| $70 < h \leq 90$ | 17 | | | | | | | | | | | |
| $90 < h \leq 100$ | 5 | | | | | | | | | | | |
| <p>11) Solve</p> $3x + 15 = 13 - x$ | <p>12) Calculate the volume of the cone. Leave your answer in terms of pi.</p>  | <p>13) What is wrong with the questionnaire?</p> <div style="border: 1px solid black; padding: 5px;"> <p>How often do you exercise?</p> <p><input type="checkbox"/> 0-1 <input type="checkbox"/> 1-2 <input type="checkbox"/> 4-5</p> </div> | <p>14) y is directly proportional to the square root of x.</p> <p>$y = 30$ when $x = 25$.</p> <p>Calculate the value of y when $x = 169$.</p> | <p>15) Tom and Lucas share their earnings in a ratio of 3:7. Lucas gets £60 more than Tom. How much did Tom get?</p> | | | | | | | | |
| <p>16) Paul wants to fertilise his lawn. Each bag covers $6m^2$. How many bags will he need to buy?</p>  | <p>17) Express $x^2 + 6x + 8 = 0$ in the form $(x + p)^2 + q = 0$ Where p and q are integers.</p> | <p>18) Calculate the size of angle x.</p>  | <p>19) 1000 tickets were sold. Adult tickets cost £8.50, children's cost £4.50, and a total of £7300 was collected. How many adult and children tickets were sold?</p> | <p>20) Write 0.171717 ... As a fraction in its simplest form.</p> | | | | | | | | |

Challenge

The equation of a line is $y = 2x + 5$. A line perpendicular to this line passes through the point $(4, 5)$. What is the equation of the perpendicular line?

