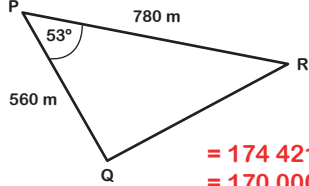
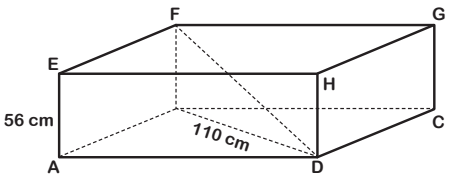
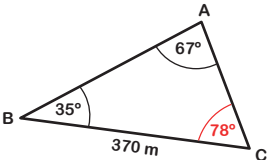
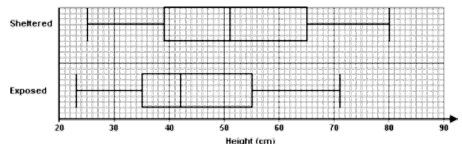


GCSE Higher Revision Mat (2) ANSWERS



<p>1) Which of these fractions are equivalent to recurring decimals?</p> $\frac{3}{5} \quad \frac{2}{11} \quad \frac{7}{8} \quad \frac{4}{25} \quad \frac{1}{3}$ <p> $\frac{3}{5} = \frac{6}{10} = 0.6$ Terminating $\frac{4}{25} = \frac{16}{100} = 0.16$ Terminating $\frac{2}{11} = \frac{18}{99} = 0.1\bar{8}$ Recurring $\frac{1}{3} = \frac{3}{9} = 0.\bar{3}$ Recurring $\frac{7}{8} = 0.875$ Terminating </p>	<p>2) Find the equation of the line which is perpendicular to $4x - y = 8$ and passes through (1, 7).</p> $y = -\frac{1}{4}x + \frac{29}{4}$	<p>3) Calculate the area of the triangle, give your answer to 2 s.f.</p>  <p>$= 174\,421.995\,394\,328$ $= 170\,000 \text{ m}^2$</p>	<p>4) Simplify $\frac{3}{x-1} + \frac{x}{x^2-1}$</p> $\frac{4x+3}{x^2-1}$
<p>5) The number of residents in a village at the start of year t is P. The number of residents at the start of year 1 was 625. Given that $P_{t+1} = 1.085P_t$ How many residents live in the village at the start of year 3?</p> <p>$625 \times 1.085 \times 1.085 = 735.765625...$ 736 residents</p>	<p>6) Factorise $8x^2 - 61x - 24$.</p> $(8x+3)(x-8)$	<p>7) I wish to paint the outside walls of my house. A tin of paint covers 25 m^2, correct to the nearest 5 m^2. The outside walls of my house have an area of 320 m^2, correct to the nearest 10 m^2. Calculate the maximum number of tins of paint I may have to buy.</p> <p>Maximum number of tins is 15.</p>	<p>8) The probability that a driver passes the driving test on the first attempt is 0.8, but on the second attempt it is 0.7. Find the probability that Henry will fail on both attempts.</p> $0.2 \times 0.3 = 0.06$
<p>9) Calculate the angle between FD and the base.</p>  <p>$x = 27^\circ$</p>	<p>10) A badminton coach needs to select two players from his team for a doubles match. He is told he can select a mixed doubles team or a female doubles team. He has 4 male players and 7 female players on his team. Show that the total number of possible pairs he can choose equals 49.</p> $4 \times 7 + \frac{7 \times 6}{2} = 49$	<p>11) Rationalise the denominator of this fraction: $\frac{10}{\sqrt{5}}$</p> $2\sqrt{5}$	<p>12) Find the nth term of the sequence: 10, 19, 34, 55, 82, ...</p> $3n^2 + 7$
<p>13) Solve the equation $x^2 - 3x - 5 = 0$. Give your answers to 2 decimal places.</p> $x = 4.19 \text{ or } x = -1.19$	<p>14) Calculate the length AB. Give your answer to 2 s.f.</p>  <p>$AB = 390 \text{ m}$</p>	<p>15) Prove that the sum of any four consecutive odd numbers is a multiple of 8.</p> $2n - 3 + 2n - 1 + 2n + 1 + 2n + 3 = 8n$ <p>Therefore, a multiple of 8.</p>	<p>16) A certain species of plant grows in two locations, one sheltered and the other exposed. The two box plots below show the distributions of heights in the two locations.</p>  <p>Make two comparisons between the heights in the two locations. The median height of the sheltered plants is greater than the median height of the exposed plant. The interquartile range of the sheltered plants is greater than the interquartile range of the exposed plants, suggesting the exposed plant heights are less varied.</p>