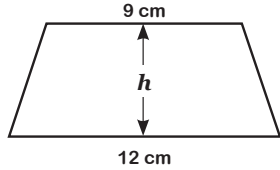
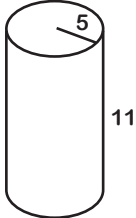
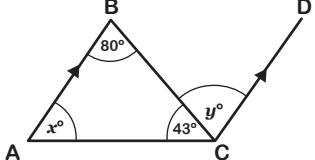
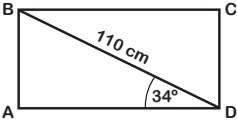
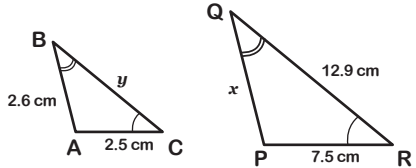


<p>1) Expand $(2x + 3)(x + 7)$</p> <p style="text-align: center;">$2x^2 + 17x + 21$</p>	<p>2) The trapezium has an area of 63 cm^2. Find the height, h, of the trapezium.</p>  <p style="text-align: center;">$\frac{(9 + 12)}{2} \times h = 63 \quad h = 6 \text{ cm}$</p>	<p>3) Reshma has a large box of batteries. The probability that any battery, chosen at random from the box, will work is 0.9. Reshma chooses two batteries. Calculate the probability that neither battery will work.</p> <p style="text-align: center;">0.01</p>	<p>4) Rebecca, Chen and Ian are cousins. Rebecca is x years old. Chen is 4 years older than Rebecca. Ian is 6 years younger than Rebecca. The total of the three ages is 40 years. Use algebra to work out the ages of the three cousins.</p> <p style="text-align: center;">Rebecca is 14, Chen is 18 and Ian is 8.</p>
<p>5) Harley went on holiday to France. He saved £325 to change into Euros. When Harley changed his money into Euros the exchange rate was £1 = €1.13.</p> <p>a) Change £325 into Euros.</p> <p style="text-align: center;">$325 \times 1.13 = \text{€ } 367.25$</p> <p>Harley had €55 left over. He changed the Euros back into Pounds in France. When Harley changed his money into Pounds the exchange rate was £1 = €1.24.</p> <p>b) Change €55 into Pounds.</p> <p style="text-align: center;">$55 \div 1.24 = \text{£}44.35$</p>	<p>6) Calculate the surface area of the following cylinder. Leave π in your answer.</p> <p style="text-align: center;">160π</p> 	<p>7) An orange costs 20 pence and a pear costs 12 pence. Write down an expression in pence for the total cost of x oranges and y pears.</p> <p style="text-align: center;">$20x + 12y$</p>	<p>8) Find angles x and y. Give reasons for your answers.</p>  <p style="text-align: center;">$x = 57^\circ$ Angles in a triangle sum to 180° $y = 80^\circ$ Alternate angles are equal</p>
<p>9) ABCD is the base of a rectangular box.</p>  <p>BD = 110 cm Angle ADB = 34°</p> <p>Calculate the length AB. Give your answer to a sensible degree of accuracy.</p> <p style="text-align: center;">62 cm</p>	<p>10) Rearrange this formula to make n the subject.</p> <p style="text-align: center;">$C = 10n - 5$</p> <p style="text-align: center;">$\frac{C + 5}{10} = n$</p>	<p>11) What is the lowest common multiple of 18 and 28?</p> <p style="text-align: center;">$2 \times 2 \times 3 \times 3 \times 7 = 252$</p>	<p>12) ABC and PQR are similar triangles.</p>  <p>Find the lengths x and y.</p> <p style="text-align: center;">$x = 7.8 \text{ cm} \quad y = 4.3 \text{ cm}$</p>
<p>13) Calculate the value of $4x^2 - 1$ when $x = -3$.</p> <p style="text-align: center;">$4x^2 - 1 = 4 \times (-3) \times (-3) - 1$ $= 36 - 1$ $= 35$</p>	<p>14) Work out $4.3 \times 10^{-3} + 2.7 \times 10^{-2}$. Give your answer in standard form.</p> <p style="text-align: center;">3.13×10^{-2}</p>	<p>15) Shahid worked out the area of a circle. His answer was $246\,000 \text{ cm}^2$. Write $246\,000 \text{ cm}^2$ in square metres.</p> <p style="text-align: center;">$10\,000 \text{ cm}^2 = 1 \text{ m}^2$ $246\,000 \text{ cm}^2 = 24.6 \text{ m}^2$</p>	<p>16) There are 60 blue, red and yellow discs in a bag. When a disc is picked out at random, the probability of it being red is 0.4. Work out how many of them are red.</p> <p style="text-align: center;">24</p>