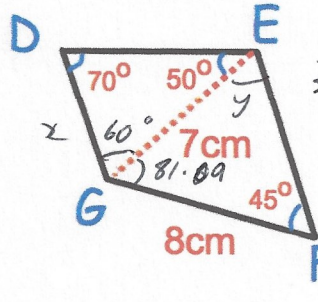
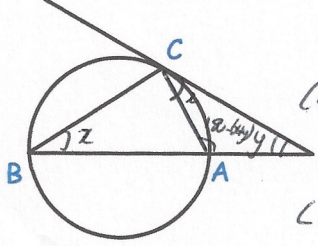




<p><b>4th December</b></p> <p>A, B and C have coordinates (2, 9), (10, -7) and (6, k) respectively.</p> <p>AB is perpendicular to AC Find k</p>	<p>gradient of AB</p> $\frac{-7-9}{10-2} = \frac{-16}{8} = -2$ <p><math>\therefore</math> gradient of AC = <math>\frac{1}{2}</math></p> $\frac{k-9}{6-2} = \frac{1}{2} \quad \therefore k = 11$
<p>Find the nth term of the sequence</p> <p>1 3 7 13 21 2 4 6 8 2 2 2</p>	<p><math>an^2 + bn + c</math></p> <p><math>a = 1 \quad b = -1 \quad c = 1</math></p> <p><math>n^2 - n + 1</math></p>
<p>The point (6, 8) lies on a circle with centre (0, 0)</p> <p><math>r = 10</math></p> <p>Write down the coordinates of another three points on the circle.</p>	<p>(0, 10) (-10, 0)</p> <p>(-8, -6)</p> <p>etc</p>
 <p><math>\frac{DG}{\sin 50} = \frac{7}{\sin 70}</math></p> <p><math>DG = 5.70645</math></p> <p><math>\frac{\sin y}{8} = \frac{\sin 45}{7}</math></p> <p><math>y = 53.91</math></p>	<p>Calculate the area of DEFG</p> <p><math>\Delta DGE \quad \frac{1}{2} \times 5.70645 \times 7 \times \sin 60 = 17.297</math></p> <p><math>\Delta GEF \quad \frac{1}{2} \times 7 \times 8 \times \sin 81.09 = 27.662</math></p> <p><math>44.959 \text{ cm}^2</math></p>
 <p><math>\angle OCA = \angle CBA</math> (alternate segment)</p> <p><math>\angle AOC</math> is shared</p> <p><math>\angle OAC = \angle OCB \quad (180 - (x+y))</math></p>	<p>OAB is a straight line and OC is a tangent to the circle.</p> <p>Prove OBC and OAC are similar</p> <p><u>AAA</u></p>