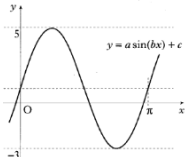


<p><b>91</b> The functions <math>f</math> and <math>g</math> are defined by <math>f(x) = x^2 + 1</math> and <math>g(x) = 3x - 4</math>, on the set of real numbers. Find <math>f(g(x))</math> and <math>g(f(x))</math>.</p>	
<p><b>92</b> The diagram shows a sketch of a trig function whose equation is of the form <math>y = a \sin(bx) + c</math>. Determine the values of <math>a</math>, <math>b</math> and <math>c</math>.</p>	
<p><b>93</b> Show that the points <math>A(-7, -8, 1)</math>, <math>T(3, 2, 5)</math> and <math>B(18, 17, 11)</math> are collinear. Find the ratio in which <math>T</math> divides <math>AB</math>.</p>	
<p><b>94</b> <math>P, Q</math> and <math>R</math> have coordinates <math>(1, 3, -1)</math>, <math>(2, 0, 1)</math> and <math>(-3, 1, 2)</math> respectively. Express the vectors <math>\overrightarrow{QP}</math> and <math>\overrightarrow{QR}</math> in component form. Hence or otherwise find the size of angle <math>PQR</math>.</p>	
<p><b>95</b> Find the exact value <math>\tan \frac{7\pi}{4}</math></p>	
<p><b>96</b> Find the equation of the line which passes through the point <math>(-1, 3)</math> and is perpendicular to the line with equation <math>4x + y - 1 = 0</math>.</p>	
<p><b>97</b> A triangle has vertices <math>A(-3, 1)</math>, <math>B(4, 3)</math> and <math>C(6, -5)</math>. Find the equation of the altitude <math>BP</math>.</p>	
<p><b>98</b> A circle <math>C_1</math> has equation <math>x^2 + y^2 + 2x + 4y - 27 = 0</math>. Write down the centre and calculate the radius of <math>C_1</math>.</p>	
<p><b>99</b> A sequence is generated by the recurrence relation <math>u_{n+1} = \frac{1}{4}u_n + 7</math>, with <math>u_0 = -2</math>. What is the limit of this sequence as <math>n \rightarrow \infty</math>?</p>	
<p><b>100</b> Calculate the shaded area shown in the diagram.</p>	