SPTA
Higher Homework
Trigonometry (A)

1. Convert to Radians (a) 225° (b) 15° (c) 170° **(3)**

2. Convert to Degrees (a) $\frac{\pi}{6}$ (b) $\frac{4\pi}{3}$ (c) $\frac{7\pi}{5}$ **(3)**

3. Calculate the exact values of

(a) $\sin^2 30^\circ + \cos^2 60^\circ$ (b) $2\cos^2 30^\circ - 1$ (c) $1 - \tan^2 60^\circ$ **(6)**

4. Show that $8\sqrt{3}\sin 30^\circ + \tan 60^\circ - \cos 30^\circ = \frac{9\sqrt{3}}{2}$ **(3)**

5. Solve the equation $2\sin 2x + 1 = 0$ for $0^\circ \le x \le 360^\circ$ **(3)**

6. The diagram shows part of the graph of a function whose equation is of the form $y = a \sin(bx) + c$

(a) Write down the values of *a*, *b*, and *c*. **(3)**

(b) Determine the exact value of the x-coordinate of P, the point where the graph intersects the x-axis as shown in the diagram. **(3)**