Trigonometric Equations
Type 1

1. Solve the following equations

   (a) $\tan^2 x = 3$ $0 \le x \le 2\pi$ (b) $2\cos^2 x - 1 = 0$ $0 \le x \le 2\pi$

   (c) $4\sin^2 x - 2 = 0$ $0 \le x \le 360$ (d) $3\tan^2 x - 12 = 0$ $0 \le x \le 360$

   (e) $6\sin^2 x - 4 = 1$ $0 \le x \le 360$ (f) $10\cos^2 x - 3 = 1$ $0 \le x \le 2\pi$

   (g) $6\cos^2 x + 5 = 8$ $0 \le x \le 2\pi$ (h) $3\tan^2 x - 1 = 0$ $0 \le x \le 2\pi$

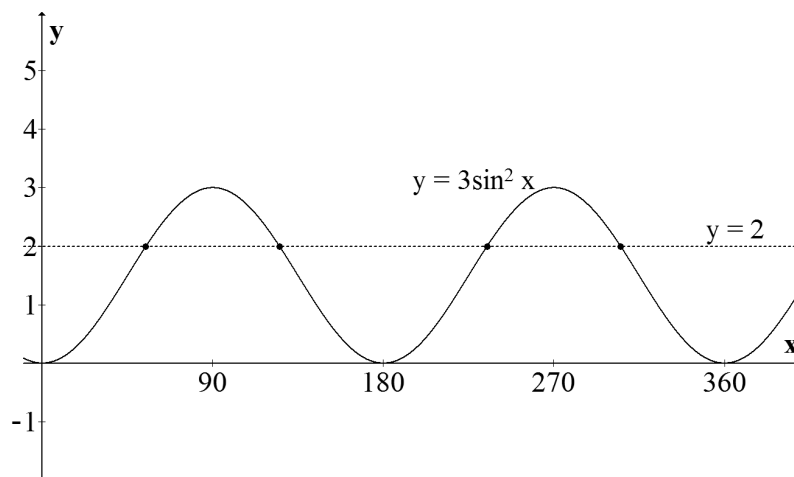   (i) $5\cos^2 x + 3 = 4$ $0 \le x \le 360$ (j) $9\sin^2 x - 1 = 7$ $0 \le x \le 2\pi$

2. The diagram shows part of the graph of $y = 3\sin^2 x$

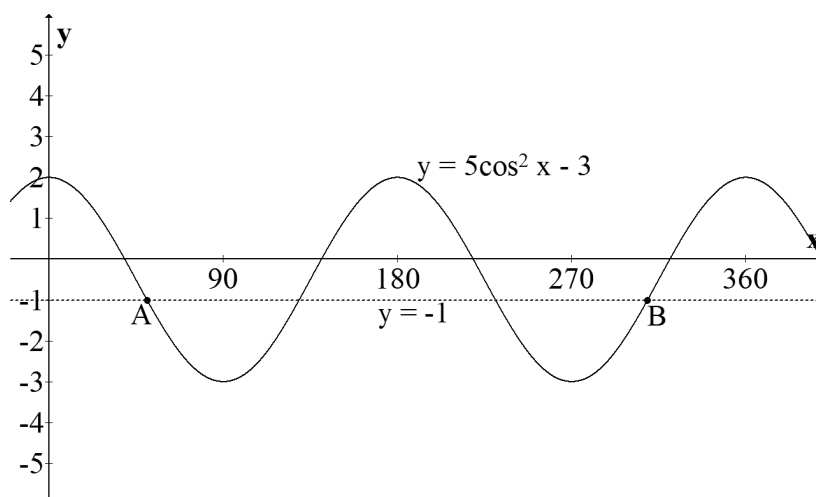   The line $y = 2$ is also drawn on the graph.

   Find the x-coordinates of the 4 points of intersection shown.

3. The diagram shows part of the graph of $y = 5\cos^2 x - 3$

   The line $y = -1$ is also drawn on the graph.

   Find the x-coordinates of A and B.

4. The diagram shows part of the graph of $y = 2\tan^2 x + 1$

   The line $y = 3$ is also drawn on the graph.

   Find the coordinates of P, Q, R and S.