71. *(a)* Find all values of x between 0° and 360° satisfying

$$\tan x = -0{\cdot}4.$$ [2]

(b) Find all values of x between 0° and 180° satisfying

$$\cos 3x = \frac{1}{2}.$$ [4]

(c) Find all values of θ between 0° and 360° satisfying

$$2\cos^2\theta + 3\sin\theta = 0.$$ [5]

June 2006

72. *(a)* Find the values of x in the range $0° \leqslant x \leqslant 360°$ satisfying

$$10\sin^2 x - 3\sin x = 4\cos^2 x + 1.$$ [6]

(b) Find the values of x in the range $0° \leqslant x \leqslant 180°$ satisfying

$$\tan(2x + 30°) = \sqrt{3}.$$ [3]

Jan 2007

73. *(a)* Find all values of x between 0° and 180° satisfying

$$\tan 3x = \sqrt{3}.$$ [4]

(b) Find all values of θ in the interval 0° to 360° satisfying

$$4\cos^2\theta - \cos\theta = 2\sin^2\theta.$$ [6]

June 2007

74. *(a)* Find all values of θ in the range $0° \leqslant \theta \leqslant 360°$ satisfying

$$12\sin^2\theta - 5\cos\theta = 9.$$ [6]

(b) Find all values of x in the range $0° \leqslant x \leqslant 180°$ satisfying

$$\sin(3x + 15°) = 0{\cdot}5.$$ [4]

Jan 20[illegible]

75. *(a)* Find all values of θ in the range $0° \leqslant \theta \leqslant 360°$ satisfying

$$2\sin\theta = 3\cos\theta.$$ [3]

(b) Find all values of x in the range $0° \leqslant x \leqslant 180°$ satisfying

$$\cos 3x = 0{\cdot}9.$$ [4]

(c) Find all values of θ in the range $0° \leqslant \theta \leqslant 360°$ satisfying

$$\sin^2\theta - 4\cos^2\theta = 8\sin\theta.$$ [5]

June 2008