Factoring Practice

Factor each completely.

1) $\sin^2 \theta + 6\sin \theta + 8$

   $(\sin \theta + 2)(\sin \theta + 4)$

2) $\cos^2 x - 5\cos x + 6$

   $(\cos x - 2)(\cos x - 3)$

3) $2\tan^2 x - 3\tan x + 1$

   $(2\tan x - 1)(\tan x - 1)$

4) $5\sec^2 \theta - 6\sec \theta - 8$

   $(5\sec \theta + 4)(\sec \theta - 2)$

5) $16\csc^2 \theta - 25$

   $(4\csc \theta + 5)(4\csc \theta - 5)$

6) $4\cot^2 x - 9$

   $(2\cot x + 3)(2\cot x - 3)$

7) $\sin^3 \theta + 8\sin^2 \theta + 15\sin \theta = 0$

   $\sin \theta \cdot (\sin \theta + 5)(\sin \theta + 3) = 0$

8) $\cos^3 \theta + 3\cos^2 \theta + 2\cos \theta$

   $\cos \theta \cdot (\cos \theta + 2)(\cos \theta + 1)$