Double-angle and Half-angle Formulas

1. Use the information given about the angle, $0 \leq \theta < 2\pi$, to find the exact value of:
a) sin(2θ) (b) cos(2θ)
(c) sin θ/2 (d) cos θ/2
(Similar to p.237 #7-18)

$$\cos\theta = \frac{2}{7}, \quad 0 < \theta < \frac{\pi}{2}$$

2. Use the information given about the angle, $0 \leq \theta < 2\pi$, to find the exact value of:
a) sin(2θ) (b) cos(2θ)
(c) sin θ/2 (d) cos θ/2
(Similar to p.237 #7-18)

$$\csc\theta = -\sqrt{7}, \quad \sec\theta < 0$$

3. Use the Half-angle formulas to find the exact value of the expression
(Similar to p.237 #19-28)

$$\cos 67.5^\circ$$

4. Use the Half-angle formulas to find the exact value of the expression
(Similar to p.237 #19-28)

$$\sin 15^\circ$$

5. Use the Half-angle formulas to find the exact value of the expression
(Similar to p.237 #19-28) NEXT TIME

$$\tan\frac{3\pi}{8}$$

6. Establish each identity
(Similar to p.238 #47-68)

$$\tan\frac{x}{2}\sin^2\frac{x}{2} = \csc x - \cot x - \frac{1}{2}\sin x$$

7. Solve each equation on the interval
$0 \leq \theta < 2\pi$
(Similar to p.238 #69-78)

$$\sin(2x) - \sin x = 0$$

8. Solve each equation on the interval
$0 \leq \theta < 2\pi$
(Similar to p.238 #69-78)

$$\tan(2x) - 2\cos x = 0$$

9. Solve each equation on the interval
$0 \leq \theta < 2\pi$
(Similar to p.238 #69-78)

$$\sin(4x) = 0$$