Homework Section 5.4/5.5 - Due 31st May

1. #12 on page 229. $\sin(\frac{\pi}{12}) = \sin(\frac{\pi}{3} - \frac{\pi}{4}) = \sin(\frac{\pi}{3})\cos(\frac{\pi}{4}) - \cos(\frac{\pi}{3})\sin(\frac{\pi}{4}) = \frac{\sqrt{3}-1}{2\sqrt{2}}$
2. #24 on page 229. $\cos(45° - \theta) = \cos(45°)\cos(\theta) + \sin(45°)\sin(\theta) = \frac{1}{\sqrt{2}}(\cos\theta + \sin\theta)$
3. #32 on page 229. $\sin(180° - \theta) = \sin(180°)\cos(\theta) - \cos(180°)\sin(\theta) = \sin\theta$.
4. #10 on page 239. $\sin x = \sqrt{\frac{1}{2} - \frac{1}{2}\cos(2x)} = \sqrt{\frac{1}{2} - \frac{1}{3}} = \frac{1}{\sqrt{6}}$.
   $\cos x = -\sqrt{\frac{1}{2} + \frac{1}{2}\cos(2x)} = -\sqrt{\frac{1}{2} + \frac{1}{3}} = -\frac{\sqrt{5}}{\sqrt{6}}$.
5. #28 on page 240. $\cos^2(2x) - \sin^2(2x) = \cos(4x)$.

Optional Practice on Page 240 (Do NOT turn in, though I'd be happy to discuss the problems outside of class):
29, 37, 44, 61