Homework Section 5.1 - Due 31st May

1. #28 on page 204. (You must use trigonometric identities for this problem.)
   $sin(\theta) = -\frac{2}{5}$. $\cos(\theta) = -\sqrt{1 - \sin^2\theta} = -\sqrt{1 - \frac{4}{25}} = -\frac{\sqrt{21}}{5}$.
   $\tan\theta = \frac{\sin(\theta)}{\cos(\theta)} = \frac{2}{\sqrt{21}}$.

For questions 2-5, simplify the expressions as much as possible.
(Your answers should have no quotients.)

2. #54 on page 205. $\sec\theta\cot\theta\sin\theta = \frac{1}{\cos\theta}\frac{\cos\theta}{\sin\theta}\sin\theta = 1$.

3. #56 on page 205. $\cot^2\theta(1 + tan^2\theta) = \frac{\cos^2\theta}{\sin^2\theta}\sec^2\theta = \frac{\cos^2\theta}{\sin^2\theta}\frac{1}{\cos^2\theta} = \csc^2\theta$.

4. #58 on page 205. $(\sec\theta + 1)(\sec\theta - 1) = \sec^2\theta - 1 = \tan^2\theta$.

5. #67 on page 206. $\sin^2\theta + \tan^2\theta + \cos^2\theta = 1 + \tan^2\theta = \sec^2\theta$.

*Extra practice (Do NOT turn in, though I'd be happy to discuss the problems outside of class): 65, 66, 68