Math U241, Fall 2007, Quiz #3

Name: Solutions

Compute

1. $\frac{d}{ds}\frac{3s-4}{2s+3} = \frac{3(2s+3)-(3s-4)\cdot 2}{(2s+3)^2} = \boxed{\frac{17}{(2s+3)^2}}$

2. $\frac{d}{dv}(v^{3/2}-v^{1/2})e^v = \left(\frac{3}{2}v^{1/2}-\frac{1}{2}v^{-1/2}\right)e^v + (v^{3/2}-v^{1/2})e^v =$

$$\boxed{\left(v^{3/2}+\frac{1}{2}v^{1/2}-\frac{1}{2}v^{-1/2}\right)e^v}$$

3. $\left(\frac{x^3-x^{5/2}}{x\sqrt{x}}\right)' = \left(\frac{x^3-x^{5/2}}{x^{3/2}}\right)' = (x^{3/2}-x)' = \frac{3}{2}x^{1/2}-1 = \boxed{\frac{3}{2}\sqrt{x}-1}$