1) $-\frac{1}{x^2} - \frac{4}{x^5} + \frac{15}{x^4} - \frac{1}{\sqrt{x}} - \frac{3}{2x^{\frac{3}{2}}}$

2) $y = x \cdot \sqrt{1+x^2} = \frac{2x^2+1}{\sqrt{x^2+1}}$

3) $y = \frac{2x}{1-x^2} = \frac{2(x^2+1)}{(x^2-1)^2}$

5) $\ln(x+\sqrt{x^2+1}) \; 2 \; \frac{1}{\sqrt{x^2+1}}$

5) $y = x \cdot \ln(x+\sqrt{x^2+1}) - \sqrt{x^2+1} =$

$= \ln(x+\sqrt{x^2+1})$

7) $y = \operatorname{arcsin}(\sin x) = \frac{\cos(x)}{\sqrt{1-x^2}}$