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P constant, Q constant, and $f.0 = 0$

<p>We herein derive the solution of the</p>	
<p>first order linear differential equation</p>	<p>750800</p>
<p>in the case that P is constant, Q is constant, and $f.0 = 0$.</p>	
<p>In this case $\int g = \int (E..(P)) = \frac{1}{P} E..(P) = \frac{1}{P} g,$</p>	
<p>and therefore $\frac{\int Qg}{g} = \frac{Q \int g}{g} = \frac{\frac{Q}{P} g}{g} = \frac{Q}{P}.$</p>	
<p>Therefore, $f = \frac{Q}{P} + c E..(-Pi).$</p>	
<p>Since $0 = \frac{Q}{P} + c E..(0) = \frac{Q}{P} + c, c = -\frac{Q}{P}.$</p>	
<p>Thus the solution is $f = \frac{Q}{P} (1 - E..(-Pi))$</p>	