Quiz 1 MTH 335 Fall 2025

Thursday, September 4, 2025 11:09 AM

$$(5t+2)y' + ty = \cos(t)$$

$$y(-1) = 5$$

Write in standard form $y' + p(t)y = Q(t)$

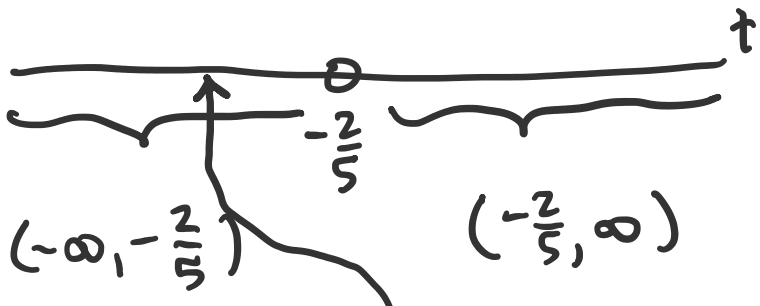
$$y' + \frac{t}{5t+2}y = \frac{\cos(t)}{5t+2}$$

not continuous when

$5t+2=0$

$t=-\frac{2}{5}$

So our possible intervals of existence are



Our data is $y(-1)=5$

input $t=-1$ is in $(-\infty, -\frac{2}{5})$

So Thm 1.2.9 shows soln exists and is unique there.