Make sure you read the reading assignments listed in the course schedule—so far we are essentially on track with that.

Problems from the textbook:

1. 12.13
2. 12.26 Write in partial-fraction expansion form.
3. 12.27
4. 12.28
5. 12.30

Consider the following function:

\[
f(t) = \begin{cases} 
0 & t \leq 0 \\
\sin(\pi t) & 0 < t \leq 1/2 \\
1 & 1/2 < t \leq 5/2 \\
\sin(\pi t) & 5/2 < t \leq 3 \\
0 & t > 3 
\end{cases}
\]

6. Sketch \( f(t) \).
7. Find \( F(s) \) by direct integration of \( f(t) \).
8. Find \( F(s) \) using the temporal translation (or shift) property of the Laplace transform, i.e., do not use integration. It may help to recall the trigonometric identity \( \sin(x \pm y) = \sin(x) \cos(y) \pm \cos(x) \sin(y) \).