7. What are the equations of the line tangent to the curve parameterized by 
\[ \mathbf{r}(t) = 3t \mathbf{i} + 2t^2 \mathbf{j} + t^5 \mathbf{k} \] at \( t = -1 \)?

Position at time \( t = -1 \): \((-3, 2, -1)\)

\[ \mathbf{r}'(t) = 3 \mathbf{i} + 4t \mathbf{j} + 5t^4 \mathbf{k} \]

\[ \mathbf{r}'(-1) = 3 \mathbf{i} - 4 \mathbf{j} + 5 \mathbf{k} \]

tan line:
\[ \frac{x + 3}{3} = \frac{y - 2}{-4} = \frac{z + 1}{5} \]

8. Find the equations of any line which is contained on the plane \( x + 3y + 3z = 6 \).

\( \mathbf{p} = (6, 0, 0) \) is on the plane
\( \mathbf{q} = (0, 1, 0) \) is on the plane
so the line connecting \( \mathbf{p} \) and \( \mathbf{q} \) is on the plane
This line: \( \overrightarrow{\mathbf{p} \mathbf{q}} = -6 \mathbf{i} + 2 \mathbf{j} \)

\[ \frac{x - 6}{-6} = \frac{y - 0}{2}, \quad z = 0 \]