1. Find the line $L$ through the points $P = (-2, 1)$ and $Q = (3, 2)$
   
   (a) Write $L$ as a line in vector(parametric) form

   (b) Convert your previous answer to a line in scalar(standard) form, i.e. $ax + by = c$. 
2. Find the equation of the plane that passes through the point \( P = (-3, 1, 1) \) and contains the line \( L, x = 1 - t, y = 2 + t, \) and \( z = 4 - 6t. \)

(a) Write your answer in part a in scalar(standard) form, i.e \( ax + by + cz = d. \)

(b) Verify your answer by checking that \( P \) and two points on the line \( L \) belong to the plane.
3. Find the distance from the point \( P = (-6, 3, 5) \) to the plane \( 3x + 2y + 6z = 5 \).

4. Find the distance between the parallel planes \( 6z = 4y - 2x \) and \( 9z = 1 - 3x + 6y \).
Review

5. Determine whether the series is absolutely convergent for $r < 1$.

\[ \sum_{k=1}^{\infty} k(r)^k \]

6. Prove that \(.999999\ldots = 1\)

7. Compute the Taylor series centered about $a = 1$ for $f(x) = 10^x$. 