Question 19 **(4 marks)**

Two parallel planes Π_1 and Π_2 have their equations given by:

$\Pi_1 \quad \underset{\sim}{r} \bullet \underset{\sim}{n} = 11$

$\Pi_2 \quad \underset{\sim}{r} \bullet \underset{\sim}{n} = -4 \quad$ where $\underset{\sim}{n} = \begin{pmatrix} a \\ b \\ c \end{pmatrix}$.

It is known that (2,3,–7) is a point on plane Π_1.

Prove the distance d between the point (2,3,–7) and plane Π_2 is given by $d = \dfrac{15}{\sqrt{a^2 + b^2 + c^2}}$.