Lines & Planes · Grade 12

Name _____ Date _____ Score _____ / 5

01

A plane has normal vector $\vec{n} = \langle 6, 3, -7 \rangle$ and passes through P(-9, 7, -6). Write its scalar equation =

02 Line through P(-2, 9, -5), direction $\vec{m} = \langle -4, 1, 7 \rangle$. Write its vector equation =

03 A line passes through A(5, 10, -1) and B(-10, 7, -7). Write its vector equation =

04 A line passes through A(1, -1) and B(-4, 5). Write its vector equation =

05 Find the distance from P(5, -1, -1) to the plane -7x + 4y + 6z = -10 ≈

Lines & Planes · Grade 12 (Answer Key)

01

A plane has normal vector $\vec{n} = \langle 6, 3, -7 \rangle$ and passes through P(-9, 7, -6). Write its scalar equation =

6x + 3y - 7z = 9

02 Line through P(-2, 9, -5), direction $\vec{m} = \langle -4, 1, 7 \rangle$. Write its vector equation =

$\vec{r} = \langle -2, 9, -5 \rangle + t\langle -4, 1, 7 \rangle$

03 A line passes through A(5, 10, -1) and B(-10, 7, -7). Write its vector equation =

$\vec{r} = \langle 5, 10, -1 \rangle + t\langle -15, -3, -6 \rangle$

04 A line passes through A(1, -1) and B(-4, 5). Write its vector equation =

$\vec{r} = \langle 1, -1 \rangle + t\langle -5, 6 \rangle$

05 Find the distance from P(5, -1, -1) to the plane -7x + 4y + 6z = -10 ≈ **3.5**