

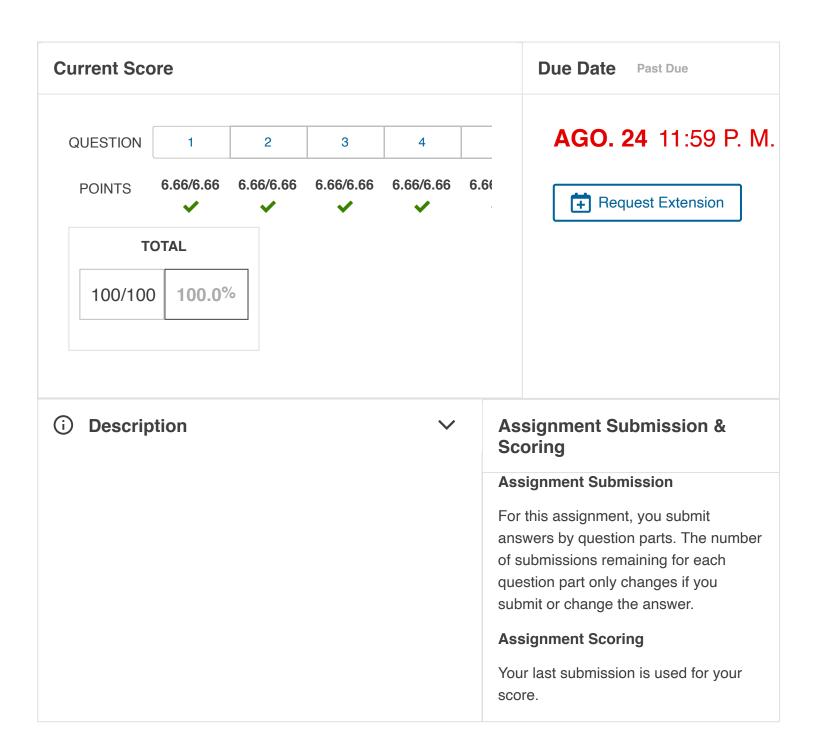
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← MA2009, section GRUPO4, Fall 2019

Tarea 1: Planos y Rectas (Homework)





## The due date for this assignment has passed.

Your work can be viewed below, but no changes can be made.

Important! Before you view the answer key, decide whether or not you plan to request an extension. Your Instructor may not grant you an extension if you have viewed the answer key. Automatic extensions are not granted if you have viewed the answer key.

SCalc8 12.5.010.

My Notes

**Ask Your Teacher** 



1.

Request Extension

6.66/6.66 points



**Previous Answers** 

Find parametric equations and symmetric equations for the line. (Use the parameter t.)

The line through (4, 3, 0) and perpendicular to both  $\mathbf{i} + \mathbf{j}$  and  $\mathbf{j} + \mathbf{k}$ 

$$\left(x(t), y(t), z(t)\right) = \left(1 + \frac{1}{2} + \frac{1}{$$

The symmetric equations are given by

$$x + 4 = -(y + 3) = z.$$

$$-(x-4) = y-3 = z.$$

$$x - 4 = y - 3 = -z$$
.

$$x - 4 = -(y - 3) = z$$
.

$$x + 4 = -(y + 3), z = 0.$$

Need Help?

## My Notes **Ask Your Teacher**

Find parametric equations and symmetric equations for the line. (Use the parameter t.)

The line through (4, -1, 4) and parallel to the line  $x + 1 = \frac{y}{2} = z - 2$ 

$$\begin{pmatrix} x, y, z \end{pmatrix} = \begin{pmatrix} \\ \$\$t+4,2t-1,t+4 \end{pmatrix}$$

2.

The symmetric equations are given by

$$x - 4 \stackrel{Y}{=} \frac{-1}{2} = z - 4.$$

$$x \frac{-4}{2} = y + 1 = z - 4.$$

$$4.$$

$$x + 4 \stackrel{Y}{=} \frac{1}{2} = z - 4.$$

$$x - 4 \over 2 = y + 1 =$$

Need Help? Watch It

(a) Find symmetric equations for the line that passes through the point (3, -4, 8) and is parallel to the vector (-1, 4, -2).

$$x \frac{-3}{-1} \stackrel{\underline{y}}{=} \frac{4}{4} =$$



$$x + 3 \stackrel{Y}{=} \frac{4}{4} \stackrel{Z}{=} \frac{-8}{-2}$$
.

$$-(x-3) = 4(y+4) = -2(z-8).$$

$$\frac{x+3}{-1} = \frac{y-4}{4} =$$

$$-(x + 3) = 4(y - 4) = -2(z + 8).$$

(b) Find the points in which the required line in part (a) intersects the coordinate planes.

\$\$-1,12,0

\$\$-1,12,0

point of intersection with xy-plane

**/** )

\$\$0,8,2

point of intersection with yz-plane

**/** )

\$\$2,0,6

point of intersection with xz-plane

**V** 

Need Help?

Watch It

Find an equation of the plane.

The plane through the points (0, 9, 9), (9, 0, 9), and (9, 9, 0)

\$\$x+y+z=18

Need Help?

Watch It

Talk to a Tutor

6.66/6.66 points **Previous Answers** 5. SCalc8 12.5.506.XP.

My Notes **Ask Your Teacher** 

Find an equation of the plane.

The plane that passes through the point (2, 3, 4) and contains the line

$$x = 4t, y = 2 + t, z = 3 - t$$

\$\$x-3y+z=-3

Need Help? Talk to a Tutor

6. 6.66/6.66 points **Previous Answers** SCalc8 12.5.509.XP.

**Ask Your Teacher** My Notes

Find an equation of the plane.

The plane that passes through the point (-2, 1, 1) and contains the line of intersection of the planes x + y - z = 3 and 3x - y + 4z = 3

\$\$-9x+11y-26z=3

Need Help?

Watch It

Find an equation of the plane.

The plane that passes through the line of intersection of the planes x - z = 3 and y + 2z = 3and is perpendicular to the plane x + y - 4z = 6

\$\$7x+5y+3z=36





Need Help? Talk to a Tutor

6.66/6.66 points **Previous Answers** SCalc8 12.5.510.XP. 8.

My Notes **Ask Your Teacher** 

Find the point at which the line intersects the given plane.

$$x = 2 - t$$
,  $y = 5 + t$ ,  $z = 3t$ ;  $x - y + 4z = 7$   
(x, y, z) = (  
\$\$1,6,3



Need Help? Watch It

Talk to a Tutor

9. 6.66/6.66 points Previous Answers SCalc8 12.5.513.XP.

My Notes **Ask Your Teacher** 

Where does the line through (1, 0, 1) and (5, -3, 4) intersect the plane x + y + z = 10?

$$(x, y, z) = ($$
\$\$9,-6,7



Consider the following planes.

$$x + y + z = 2$$
,  $x + 7y + 7z = 2$ 

(a) Find parametric equations for the line of intersection of the planes. (Use the parameter t.)

$$(x(t), y(t), z(t)) = \Big($$



(b) Find the angle between the planes. (Round your answer to one decimal place.)

Need Help? Watch It

Talk to a Tutor

My Notes **Ask Your Teacher** 6.66/6.66 points **Previous Answers** 11. SCalc8 12.5.060.

Find symmetric equations for the line of intersection of the planes.

$$z = 2x - y - 7$$
,  $z = 5x + 2y - 13$ 

$$x = 3, -3(y + 1) = 9z$$

$$3(x + 3) = -3(y - 1) = 9z$$

$$3(x-3) = -3(y+1) = 9z$$

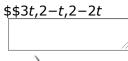
$$x + 3 \quad \underline{y} - 1 \\ -3$$

$$\frac{Z}{9}$$

$$x - 3$$
  $\underline{y} + 1$   $-3$ 

Find parametric equations for the line through the point (0, 2, 2) that is parallel to the plane x + y + z = 3 and perpendicular to the line x = 1 + t, y = 2 - t, z = 2t. (Use the parameter t.)

$$(x(t),\,y(t),\,z(t))=\Big($$



Need Help? Watch It

Talk to a Tutor

My Notes **Ask Your Teacher** 13. 6.66/6.66 points **Previous Answers** SCalc8 12.5.074.

Find the distance between the given parallel planes.

$$6z = 2y - 2x$$
,  $9z = 1 - 3x + 3y$ 

\$\$1√99

6.66/6.66 points Previous Answers SCalc8 12.5.516.XP.

My Notes

**Ask Your Teacher** 

Find parametric equations for the line. (Use the parameter *t*.)

The line of intersection of the planes x + y + z = 7 and x + z = 0

$$(x(t),\,y(t),\,z(t))=\Big($$

\$\$t,7,-t



Find the symmetric equations.

$$x = -z, y = 7$$

$$x = -y, z = 7$$

$$x = y, z = 7$$

$$y = z, x = 7$$

$$x = z, y = 7$$

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15.

6.76/6.76 points Previous Answers

SCalc8 12.5.520.XP.

My Notes

**Ask Your Teacher** 

Find an equation of the plane.

The plane that contains the line x = 5 + 2t, y = t, z = 9 - t and is parallel to the plane

$$2x + 4y + 8z = 17$$

\$\$2*x*+4*y*+8*z*=82





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