

## Planes

**Find the intercepts for each plane.**

1)  $-12x - 16y - 16z = -48$

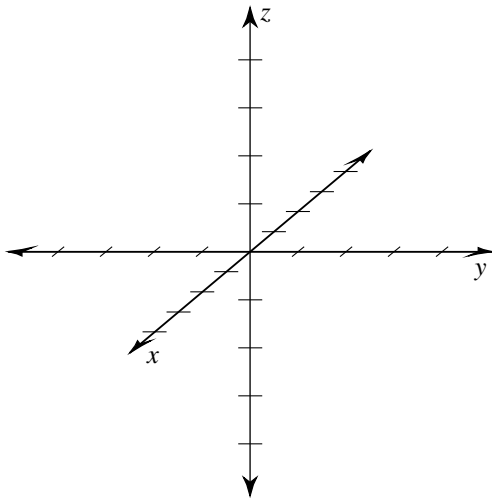
2)  $2x + y + z = -4$

3)  $-x + y - z = 2$

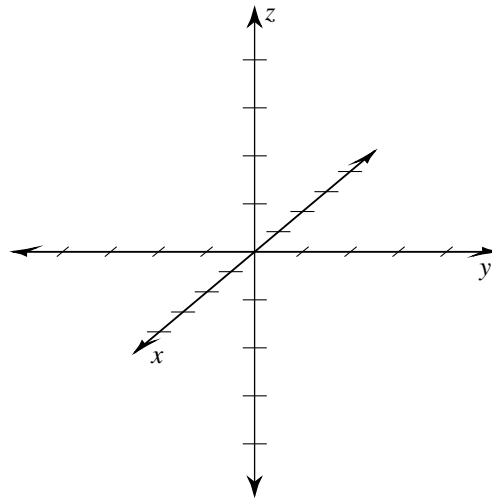
4)  $4x + 6y + 3z = 12$

**Sketch each plane.**

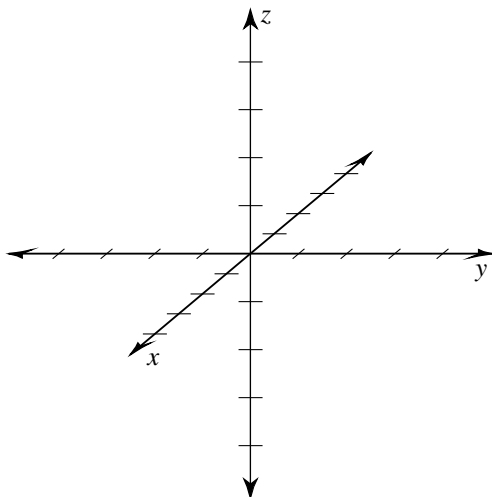
5)  $-8x + 12y - 12z = 24$



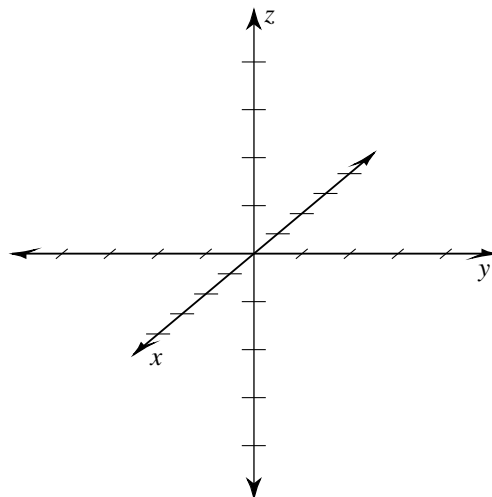
6)  $4x + 6y + 3z = 12$



7)  $3x - 2y + 3z = 6$

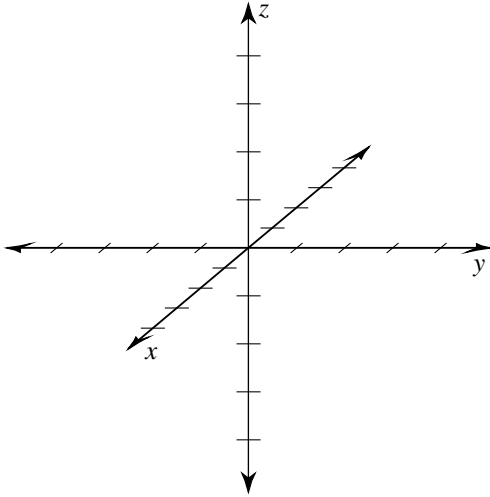


8)  $-3x + 2y - 2z = -6$

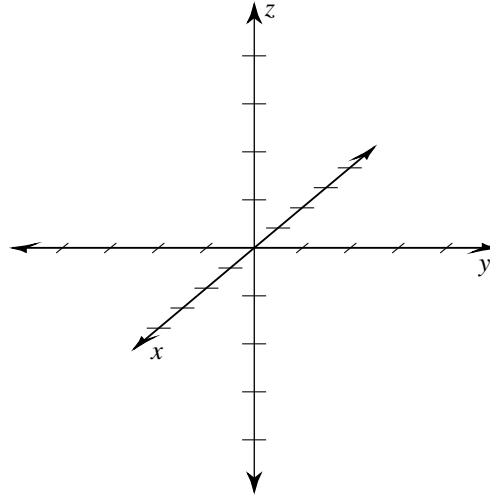


Sketch each plane and write the equation of each trace.

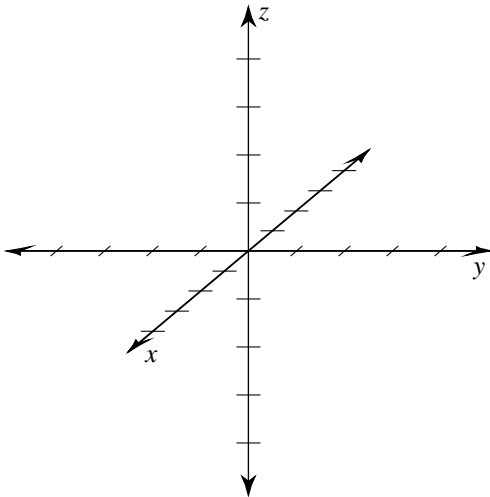
9)  $x + y - z = 3$



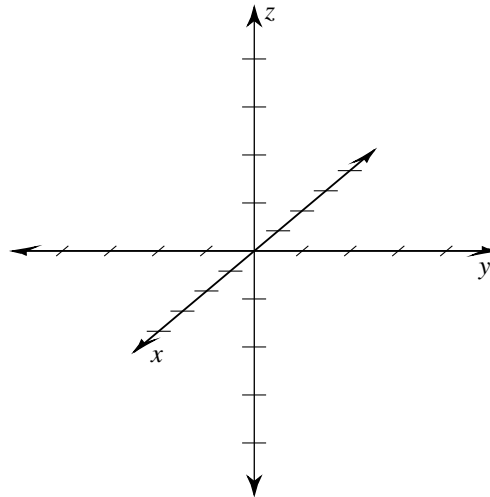
10)  $-6x + 3y + 4z = 12$



11)  $3x - 6y - 4z = 12$



12)  $-3x + 2y - 2z = 6$



**Critical thinking questions:**

13) Write the equation of a plane with the intercepts:

x-int = 2

y-int = -3

z-int = 4

14) Write the equation of a plane with a y-intercept of 2 and an XZ trace of  $2x + z = 8$

## Planes

Find the intercepts for each plane.

1)  $-12x - 16y - 16z = -48$

$x\text{-int} = 4; y\text{-int} = 3; z\text{-int} = 3$

2)  $2x + y + z = -4$

$x\text{-int} = -2; y\text{-int} = -4; z\text{-int} = -4$

3)  $-x + y - z = 2$

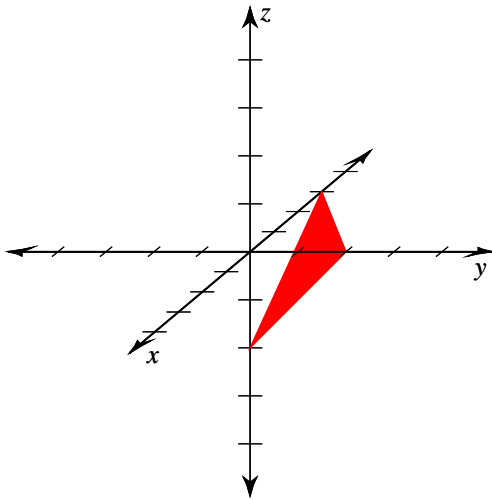
$x\text{-int} = -2; y\text{-int} = 2; z\text{-int} = -2$

4)  $4x + 6y + 3z = 12$

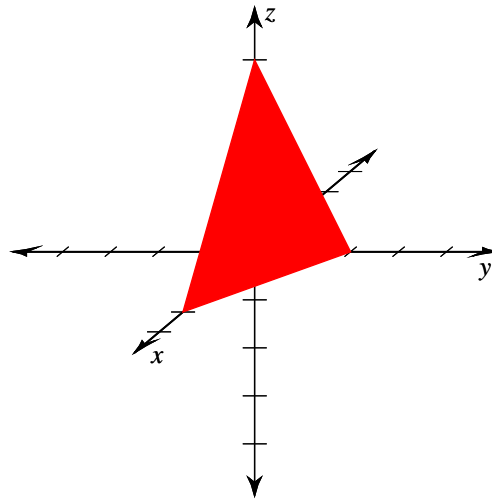
$x\text{-int} = 3; y\text{-int} = 2; z\text{-int} = 4$

Sketch each plane.

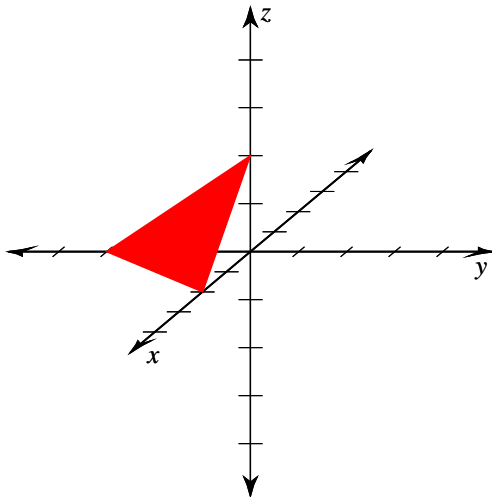
5)  $-8x + 12y - 12z = 24$



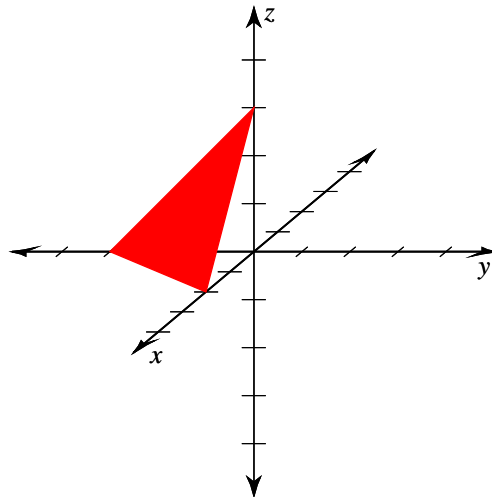
6)  $4x + 6y + 3z = 12$



7)  $3x - 2y + 3z = 6$

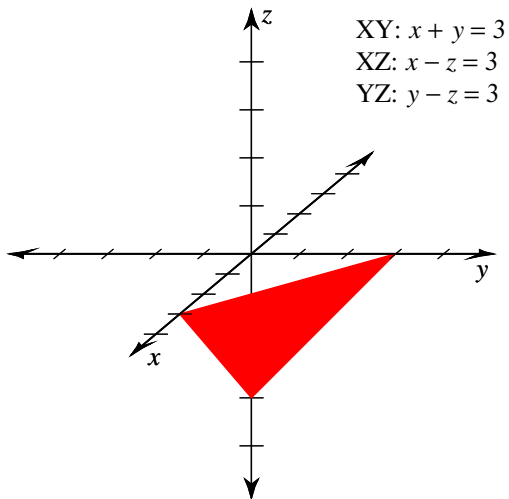


8)  $-3x + 2y - 2z = -6$

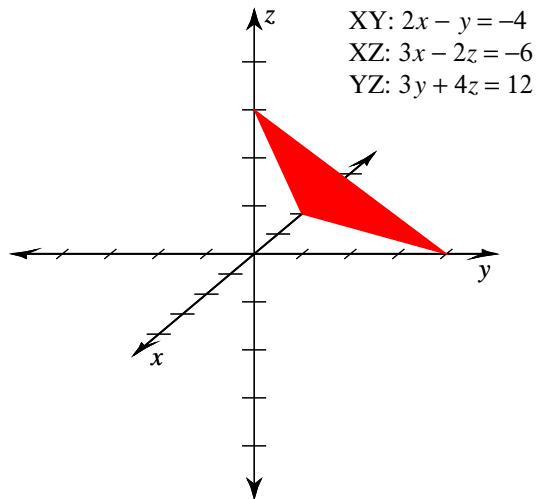


**Sketch each plane and write the equation of each trace.**

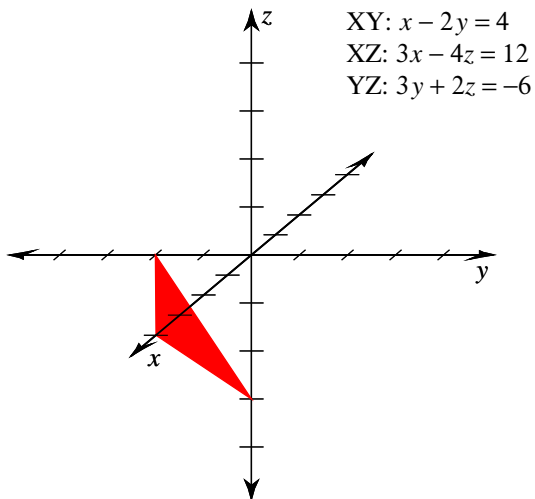
9)  $x + y - z = 3$



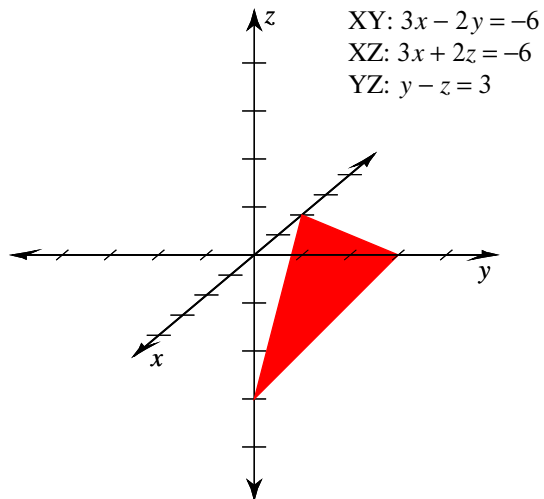
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12)  $-3x + 2y - 2z = 6$



**Critical thinking questions:**

13) Write the equation of a plane with the intercepts:

- x-int = 2
- y-int = -3
- z-int = 4

$6x - 4y + 3z = 12$

14) Write the equation of a plane with a y-intercept of 2 and an XZ trace of  $2x + z = 8$

$2x + 4y + z = 8$