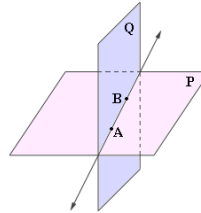
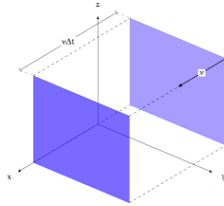


Date: _____

9.3 The Intersection of Two Planes

1) The Intersection of Two Planes

There are three ways that two planes can intersect.



What is different about the intersection of planes from that of lines?

Identify the type of intersection that occurs between the pairs of planes provided below, and explain how you reached your conclusion.

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

b) $6x + 4y - 2z = 8$

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

$3x + 2y - z = 8$

Now let's solve to find the equation of the line of intersection for two planes. We can do this using matrices, or using a series of substitution/elimination steps like we saw yesterday. The key thing to remember is that you need to introduce parameters so that we can develop an equation for a line! There is not a single unique solution.

Example: Determine the solution to $x - y + z = 3$ and $2x + 2y - 2z = 3$.

