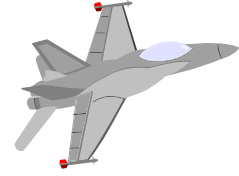




Math Study Strategies

Math for Air Traffic Control

Non-Intersecting Flight Paths



Two airplanes are tracked using the same coordinate system on a radar screen. One plane is following a path described by the equation:

$$(1) \quad y = \frac{2}{5}x - 2,$$

and the other is following a path described by the equation:

$$(2) \quad 2x = 5y + 7.$$

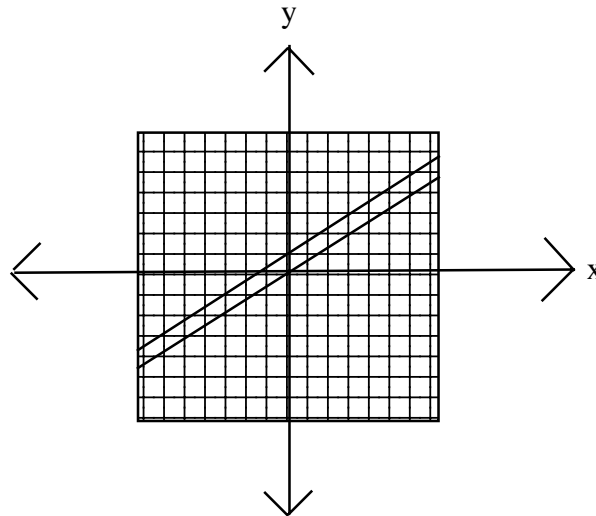
Is there a possibility of a collision?

Rewrite both equations in slope, y-intercept form

$$(1) \quad y = \frac{2}{5}x - 2$$

$$(2) \quad y = \frac{2}{5}x - \frac{7}{5}$$

Because the slopes are the same $\left(\frac{2}{5}\right)$ the system of equations is inconsistent and the lines are parallel.



Conclusion: There are no solutions to the system of equations (the lines do not intersect). Therefore is no **possibility of a collision**.