

### 7.3 Using Graphing Technology to Solve a System of Linear Equations

#### Explore:

1. Here are two linear systems:

i)  $15x - 2y = 9$   
 $5x + 4y = 17$

ii)  $15x - 3y = 9$   
 $5x + 4y = 17$

a) Express each equation in **slope-intercept** form. Graph each linear system using a graphing calculator.

i)  $2y = 15x - 9$   
 $y = \frac{15x - 9}{2}$   
 $4y = -5x + 17$   
 $y = -\frac{5}{4}x + \frac{17}{4}$

ii)  $3y = 15x - 9$   
 $y = 5x - 3$   
 ~~$5x + 4y = 17$~~

$4y = -5x + 17$   
 $y = \frac{-5x + 17}{4}$

b) Determine the coordinates of the point of intersection of the lines using a table of values. Are the coordinates of the point of intersection exact or approximate?

i)  $(1, 3)$   
exact

ii)  $(1.1, \sim 3)$   
approx.

c) What do the coordinates of the point of intersection represent?

where the 2 linear functions  
are equal to each other.