Solving a system by graphing

The solution of a linear system can be estimated by graphing both equations on the same grid using your calculator. If the two lines interest, the coordinates (*x, y*) of the point of intersection are the solution of the linear system.

Solve the system: 

 Step 1: Both equations must be in the slope-intercept form (*y* = m*x* + b)

Step 2: Place one equation into and the other into on your calculator.

Step 3: Make sure your window is big enough to be able to see the point of intersection. Sketch your graph with your window settings.

Step 4: Go to 2ND TRACE, 5: intersect, hit ENTER 3x

Step 5: Your solution will be given on the bottom of the screen. x = and y = : always but your answers as a coordinate.

 EX. 1

Solve this linear system.



EX. 2

One plane left Regina at noon to travel 1400mi. to Ottawa at an average speed of 400mph. Another plane left Ottawa at the same time to Regina at an average speed of 350mph. A linear system that models this situation is:

 d = 1400 – 400t

 d = 350t

Where d is the distance in miles from Ottawa and t is the time in hours since the planes took off.

a) Graph the linear system above using reasonable scales.

b) When do the planes pass each other and how far are they from Ottawa?

EX. 3

To visit the Head-Smashed-In Buffalo Jump interpretive centre near Fort Macleod, Alberta, the admission fee is $5 for a student and $9 for an adult. In one hour, 32 people entered the centre and a total of $180 in admission fees was collected. How many students and how many adults visited the centre during this time?

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