Geometry

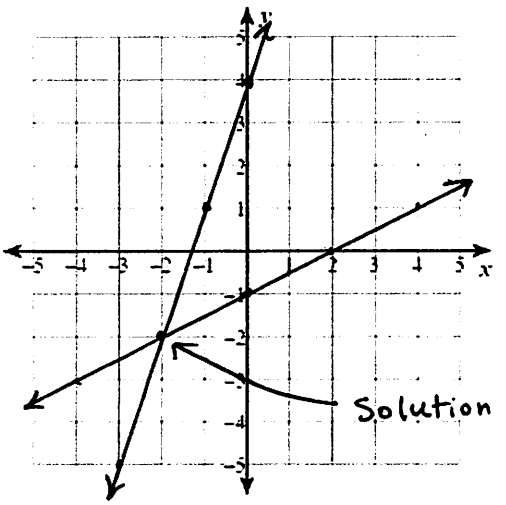
Name Key

Systems of Linear Equations

Solve the system by graphing.

1) $y = 3x + 4$

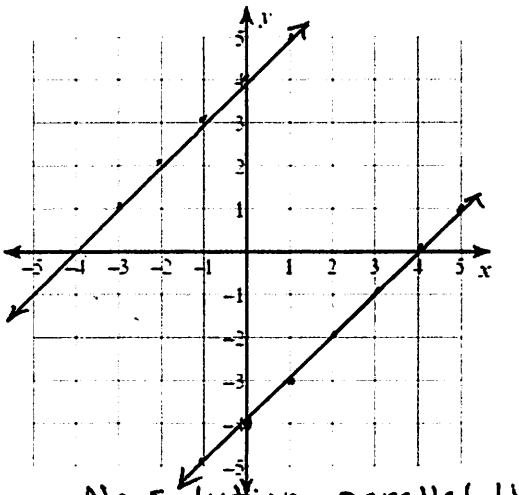
$y = \frac{1}{2}x - 1$



Solution $(-2, -2)$

2) $y = x - 4$

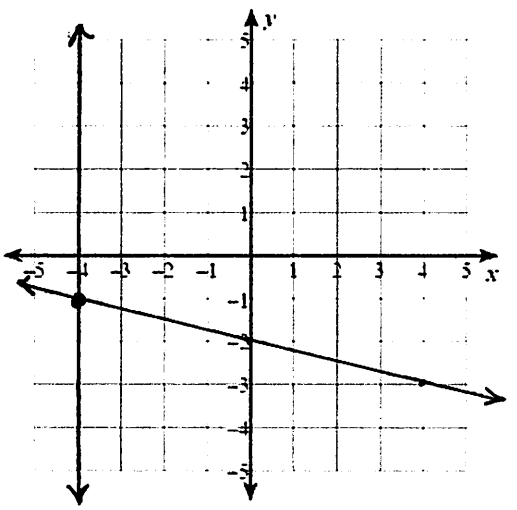
$y = x + 4$



No solution, parallel lines never intersect

3) $y = -\frac{1}{4}x - 2$

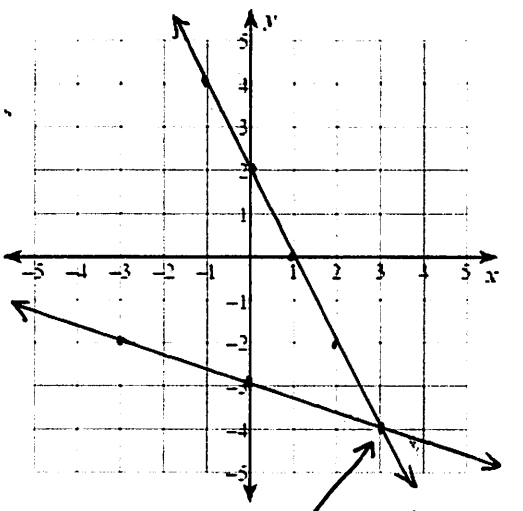
$x = -4$



Solution: $(-4, -1)$

4) $y = -2x + 2$

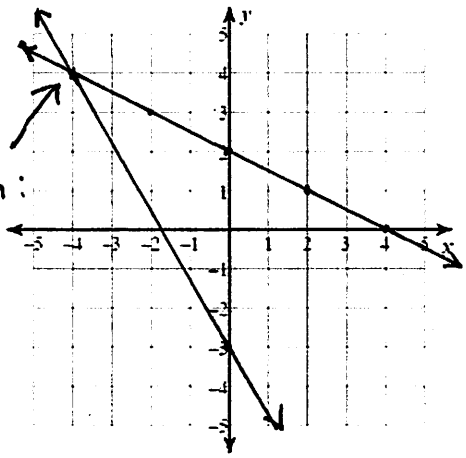
$y = -\frac{1}{3}x - 3$



Solution: $(3, -4)$

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

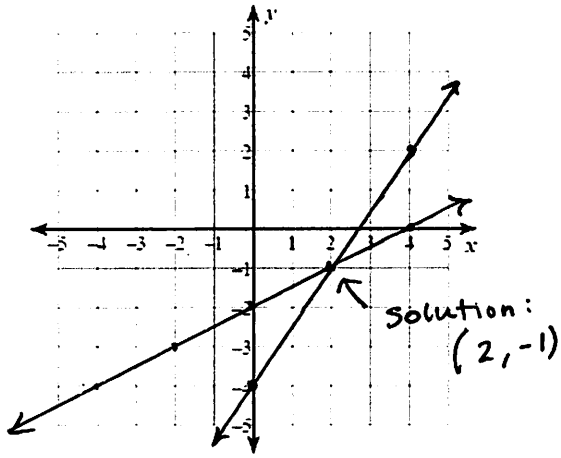
$y = -\frac{7}{4}x - 3$



Solution:
(-4, 4)

6) $y = \frac{3}{2}x - 4$

$y = \frac{1}{2}x - 2$



7) Juan and his friends are going to an amusement park and discover that they have two ticket options.

- Option A has you buy an admission ticket for $5 and then pay $0.25 for each ride.
- Option B has you buy an admission ticket for $2 and then pay $0.75 per ride.

let y = total cost
x = total rides ridden

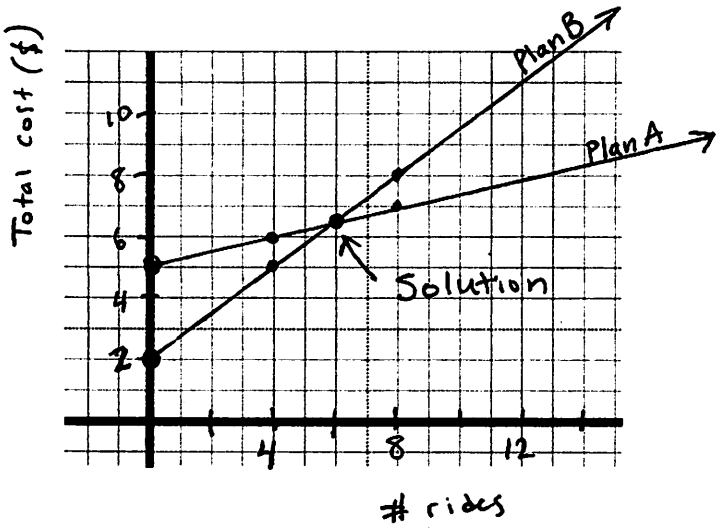
a) Write a linear equation for Option A.

$y = 0.25x + 5$

b) Write a linear equation for Option B.

$y = 0.75x + 2$

c) Graph both equations on the graph below to see when both options are equal.



~~After~~
Both plans cost $6.50 at 6 rides. Juan and friends should choose option A if they plan to ride more than 6 rides.