1) Solve each system by graphing.

a) ℓ_1: $y = 2x + 1$
   ℓ_2: $y = x - 2$
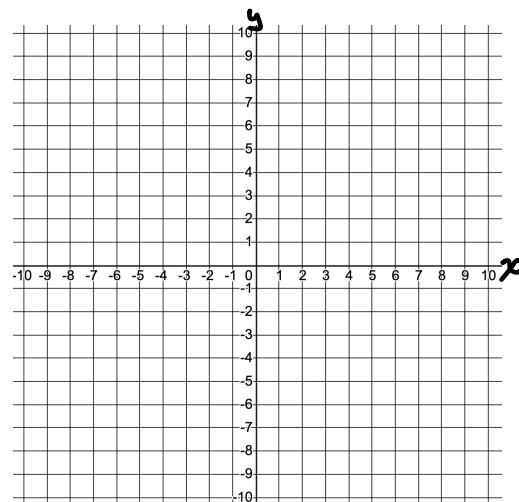
b) ℓ_1: $x + 2y = 2$
   ℓ_2: $x + y = 3$
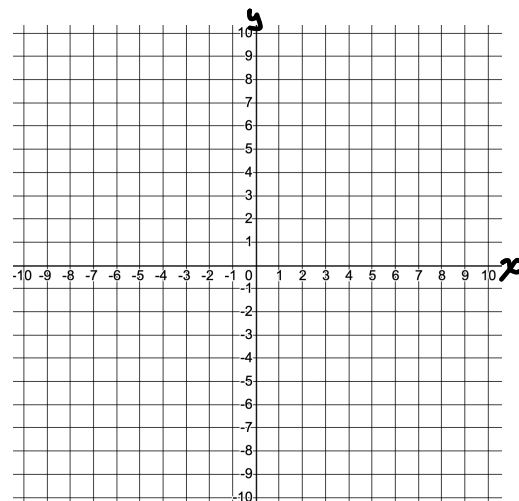
c) ℓ_1: $y = 2x - 3$
 ℓ_2: $2x - y = 5$
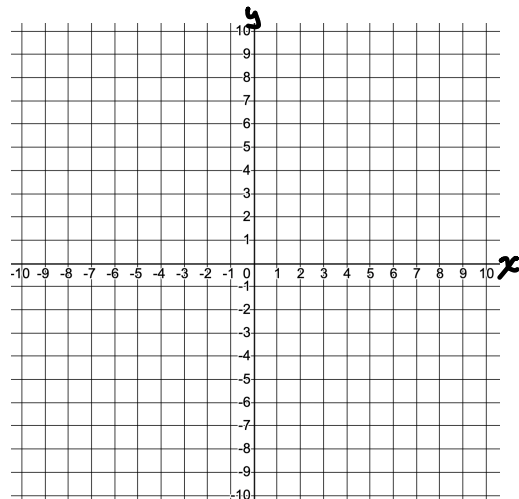
d) ℓ_1: $3x = y + 4$
   ℓ_2: $6x - 2y - 8 = 0$
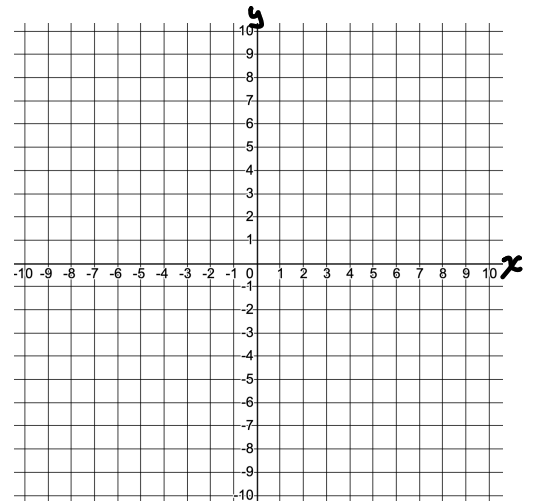
e) ℓ_1: $3x + 2y = 3$
   ℓ_2: $2x + 10y = -5$
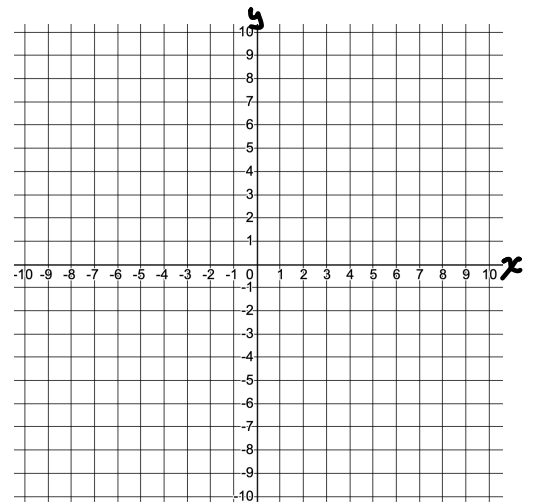
f) ℓ_1: $2x + 6y - 12 = 0$
   ℓ_2: $6x - 3y - 15 = 0$
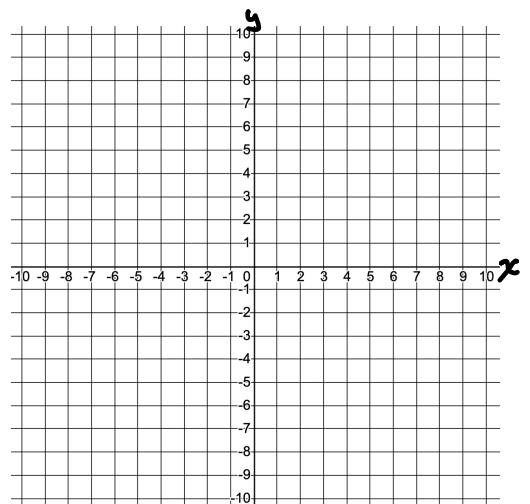
2) Without graphing, determine whether each system has one solution, no solutions, or infinitely many solutions. Explain.

a) ℓ_1: $2x + y = 5$
ℓ_2: $2x + 10y = -5$

b) ℓ_1: $3x - y = 0$
ℓ_2: $6x - 2y = 3$

c) ℓ_1: $x + y = 2$
ℓ_2: $3x = 6 - 3y$

Answers:

1)a) $(-3, -5)$ **b)** $(4, -1)$ **c)** no solutions; parallel and distinct **d)** infinite solutions; parallel and coincident

e) $(1.5, -0.8)$ this is an approximate answer **f)** $(3,1)$

2)a) one solution **b)** no solutions **c)** infinitely many solutions