Mathematics 1201 Review Ch 7 Linear Systems

1. Solve for x: $\begin{cases} x - y = 4 \\ 3x + y = 0 \end{cases}$ 1.___

(A) x = –2 (B) x = –1 (C) x = 0 (D) x = 1

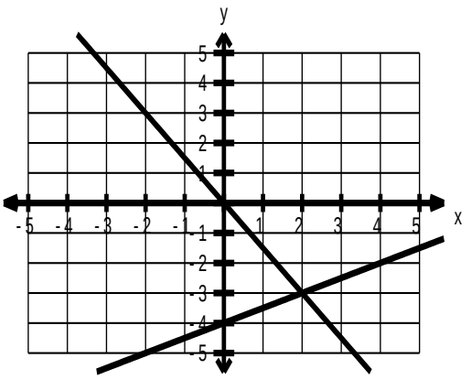
2. What is the solution to the linear system? 2.___

(A) (–3, 2)

(B) (0, 0)

(C) (0, –4)

(D) (2, –3)



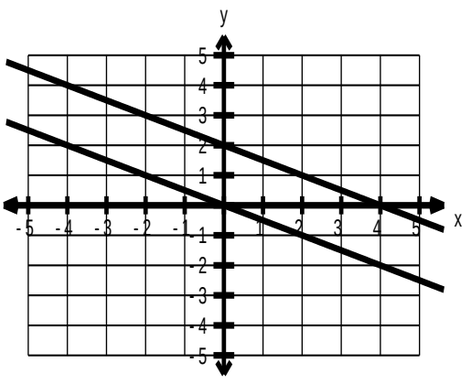
3. How many solutions are there for the given linear system? 3.___

(A) 0

(B) 1

(C) 2

(D) infinite



4. Which system as an infinite number of solutions? 4.___

(A) $\begin{cases} x = 4 \\ y = 4 \end{cases}$ (B) $\begin{matrix} y = \frac{1}{4}x + 1 \\ y = \frac{1}{4}x - 3 \end{matrix}$

(C) $\begin{cases} x - y = 6 \\ 3x - 3y = 18 \end{cases}$ (D) $\begin{matrix} y = \frac{1}{4}x + 1 \\ y = -4x + 1 \end{matrix}$

5. Joan and Kim downloaded music and videos last month.

	Music	Video	Total Cost
Joan	4	2	$12
Kimberley	6	4	$22

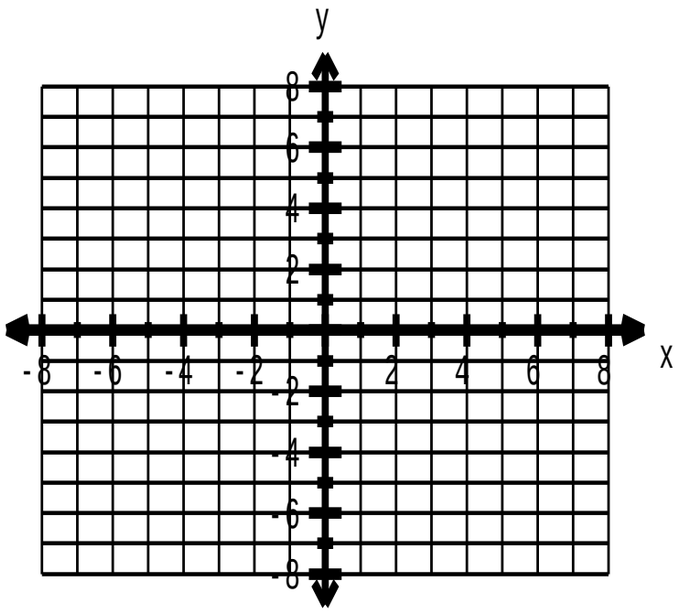
Which system represents the costs? 5.___

(A) $\begin{matrix} 4m + 6v = 12 \\ 2m + 4v = 22 \end{matrix}$ (B) $\begin{matrix} 4m + 4v = 22 \\ 6m + 2v = 12 \end{matrix}$

(C) $\begin{matrix} 4m = 12 - 2v \\ 6m = 22 - 4v \end{matrix}$ (D) $\begin{matrix} 4m = 2v - 12 \\ 6m = 4v - 22 \end{matrix}$

6. Solve the system graphically:

$x - 2y = -10$
$2x + y = -5$



7. Solve each system algebraically:

(a) $-3x + 2y = -13$
$2x - 7y = 3$

(b) $4x + 3y = -5$
$-3x + 2y = 8$

8. Tickets to a movie cost $11.50 for adults and $9.50 for youth. If 300 tickets were sold for $3210, how many of each kind were sold?

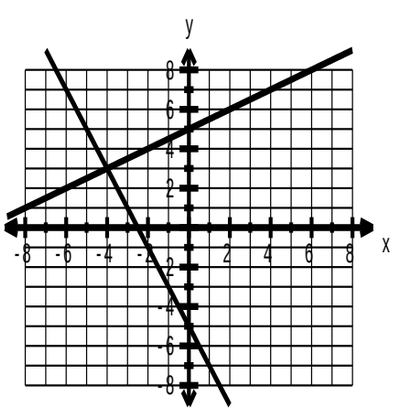
9. How many milliliters of both 40% alcohol solution and 60% alcohol solution is required to make 100 ml of 48% alcohol solution?

10. $1040 is invested in the stock market. Shares are purchased with Husky Oil at $25/share and CIBC at $18/share. If a total of 50 shares are purchased, determine how many shares of each stock were purchased.

ANSWERS:

1. D 2. D 3. A 4. C 5. C

6.



Point of intersection (–4, 3)

7.(a) (5, 1) (b) (–2, 1) (c) (–8, 10) (d) (800, 1000)

8. 180 adult tickets sold and 120 youth tickets sold

9. 40 ml of 60% alcohol solution and 60 ml of 40% alcohol solution required.

10. 20 shares of Husky Oil and 30 shares of CIBC purchased

7.(c)

$$\begin{cases} \frac{3}{2}x + \frac{3}{5}y = -6 \\ \frac{3}{4}x - \frac{1}{2}y = -11 \end{cases}$$

(d)

$$\begin{cases} x + y = 1800 \\ 0.035x + 0.045y = 73 \end{cases}$$