

G, I

35. The equations of four lines are given below. Select **two** equations that form a system with no solutions.

F. $y = -2(x + 1) - 7$

$y = -2x - 2 - 7$

G. $x - 3y = 9$

$-3y = -x + 9 \rightarrow y = \frac{1}{3}x - 3$

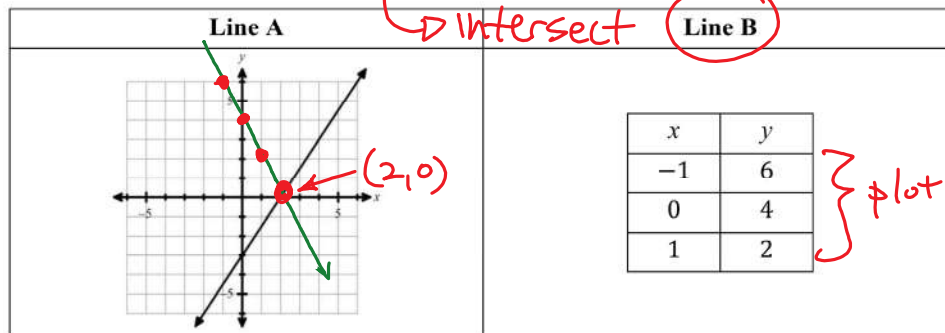
H. $y = -\frac{1}{2}(x - 4) - 1$

I. $y = \frac{1}{3}x + 2$

parallel lines
• same slope
• diff y-ints

A

36. The graph and a table of values are given to represent two linear equations in a system of equations. Which of the following is the solution to the system?



- A. (2, 0)
- B. (0, -3)
- C. (-1, -5)
- D. (-2, -6)

A

37. Which equation would make this system have an infinite number of solutions?

A. $2y = 2x + 4$
 $y = x + 2$

B. $y - x = 3$
 $y = x + 3$

$y = x + 2$

- ~~C.~~ $y = 2x$
- ~~D.~~ $y = 3x - 1$

same line
• same slope
• same y-int

ALGEBRA 1 SEMESTER 1 INSTRUCTIONAL MATERIALS

HS Courses: #2201 Algebra 1 S1 and #7769 Foundations in Algebra 1 S1
MS Courses: #218 Algebra 1, #217A VMS ALG 1 S1, and #776 ACCEL Algebra 1

2021-2022

38. The equation and a table of values are given to represent two linear equations in a system of equations. Which of the following is the solution to the system?

Line A	Line B								
$y = -3x - 4$	<table border="1"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>-1</td> <td>4</td> </tr> <tr> <td>1</td> <td>-2</td> </tr> <tr> <td>2</td> <td>-5</td> </tr> </tbody> </table>	x	y	-1	4	1	-2	2	-5
x	y								
-1	4								
1	-2								
2	-5								

- A. (0, 1)
B. (-2, 2)
C. infinite number of solutions
D. no solution

$y = mx + b$?
y-intercept
vs.
Same slope & diff y-int
→ parallel lines

$y = \left(\frac{-3}{+1}\right)x + 1$

39. Which x-coordinate is in the solution to the system of equations?

Elimination

$$\begin{array}{r} x - 2y = 5 \\ 3x + 8y = 1 \end{array} \rightarrow \begin{array}{r} 4x - 8y = 20 \\ + 3x + 8y = 1 \\ \hline 7x = 21 \\ \hline x = 3 \end{array}$$

"add opposites"

A. $x = -1$
B. $x = 3$
C. $x = 19$
D. no solution

40. Which y-coordinate is in the solution to the system of equations?

Substitution

$$\begin{cases} y = 0.5x + 2 \\ -y = 3 - x \end{cases}$$

$$-(0.5x + 2) = 3 - x$$

$$-0.5x - 2 = 3 - x$$

$$\begin{array}{r} +x + 2 \\ +x + 2 \\ \hline 0.5x = 5 \\ 2 \cdot \frac{1}{2}x = 5 \cdot 2 \\ x = 10 \end{array}$$

$$y = 0.5(10) + 2 = 5 + 2 = 7$$

A. $y = 5$
B. $y = 8$
C. $y = 7$
D. $y = 14$

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41. You invited friends over to your house to watch a movie. You let each person decide if they wanted to snack on popcorn, which costs \$2.50 per person, or candy, which costs \$1.75 per person. You spent \$17.75 to buy snacks for 8 people. Write a system of equations that you could use to determine how many people chose popcorn (p) and how many chose candy (c).

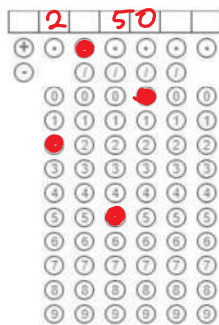
A. $f(x) = \begin{cases} 2.50p + 1.75c = 8 \\ p + c = 17.75 \end{cases}$

C. $f(x) = \begin{cases} 17.75 - 2.5p = 8 \\ 17.75 - 1.5c = 8 \end{cases}$

B. $f(x) = \begin{cases} 2.50p + 8p = 17.75 \\ 1.75c + 8c = 17.75 \end{cases}$

D. $f(x) = \begin{cases} 2.50p + 1.75c = 17.75 \\ p + c = 8 \end{cases}$ # people

42. Two different families bought general admission tickets for a Reno Aces baseball game. One family paid \$71 for 6 adults and 2 children. The other family paid \$56.50 for 3 adults and 4 children. How much more does an adult ticket cost than a child's ticket? Bubble your answer in the grid provided below



Handwritten solution for problem 42:

$$\begin{aligned} 6x + 2y &= 71 \\ 3x + 4y &= 56.50 \end{aligned}$$

Elimination:

$$\begin{aligned} -12x - 4y &= -142.00 \\ (+) 3x + 4y &= 56.50 \\ \hline -9x &= -85.50 \\ \hline x &= \$9.50 \text{ adult} \end{aligned}$$

Substitution:

$$\begin{aligned} 6(9.50) + 2y &= 71 \\ 57 + 2y &= 71 \\ -57 & \quad -57 \\ \hline 2y &= 14 \\ \hline y &= \$7 \text{ child} \end{aligned}$$

Final calculation:

$$\begin{aligned} & \$9.50 \\ & - 7.00 \\ \hline & \$2.50 \end{aligned}$$

adult ticket more than child's

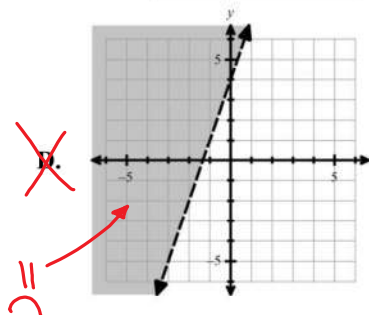
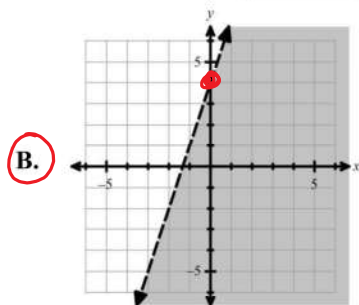
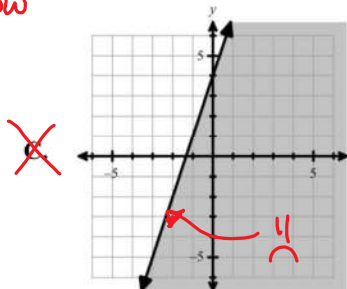
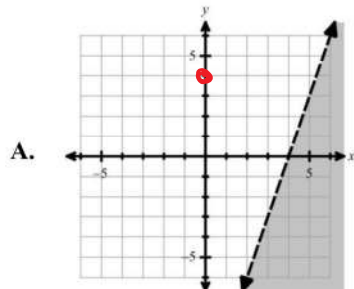
Annotations: "x-y?", "elimination", "x", "y", "2", "71", "56.50", "9.50", "7", "2.50".

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B 43. Which is the graph of $y < 3x + 4$?
• dashed
• below



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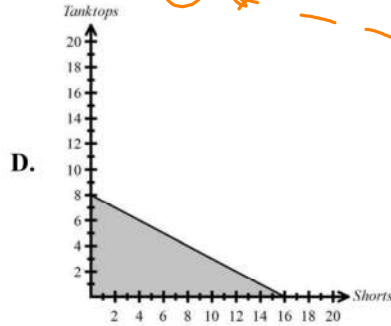
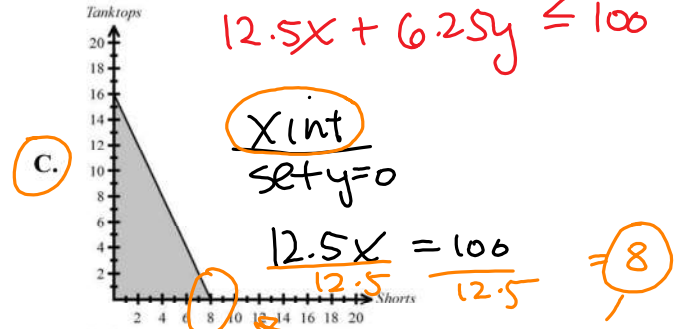
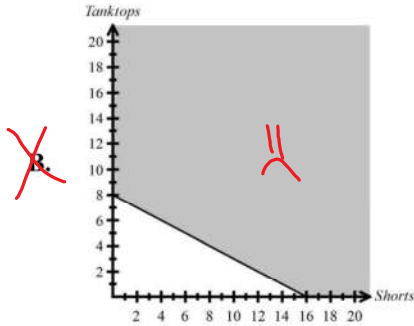
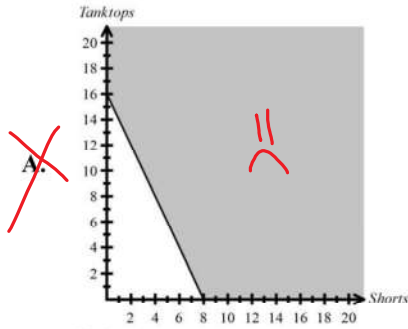
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2021-2022

- C 44. Tandy has at most \$100 to spend on summer clothes. If shorts cost \$12.50 a pair and tanktops cost \$6.25 each, which graph represents the possible combinations of shorts and tanktops that Tandy can buy?



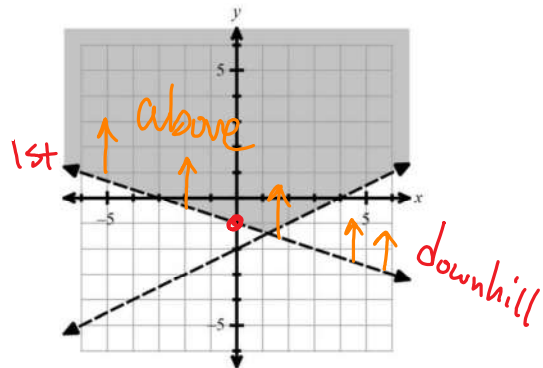
- C 45. Which system of inequalities models the graph below?

A. $\begin{cases} y < \frac{1}{3}x - 1 \\ 2x + 4y > 8 \end{cases}$ (Crossed out with a red 'X' and a sad face)

B. $\begin{cases} y < -\frac{1}{3}x - 1 \\ 2x - 4y > 8 \end{cases}$

C. $\begin{cases} y > -\frac{1}{3}x - 1 \\ 2x - 4y < 8 \end{cases}$ (Circled in orange, with 'above' written next to the first inequality)

D. $\begin{cases} y > \frac{1}{3}x - 1 \\ 2x + 4y < 8 \end{cases}$ (Crossed out with a red 'X' and a sad face)



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2021-2022

Algebra 1 Semester 1 Instructional Materials 2021-22 Answers								
Topic 1 Solving Equations & Inequalities			Topic 2 Linear Equations			Topic 3 Linear Functions		
#	Ans	Standard	#	Ans	Standard	#	Ans	Standard
1.	F, H, I	HSA.REI.A.1	10.	A	HSF.IF.C.7a	23.	F, H, J, K	HSF.IF.A.1
2.	A	HSA.CED.A.1	11.	C	HSF.IF.C.7a	24.	B	HSF.IF.B.5
3.	D	HSA.REI.A.1	12.	B	HSA.CED.A.2 HSF.IF.C.7a	25.	A	HSF.IF.A.2
4.	-2.0	HSA.REI.B.3	13.	C	HSF.IF.C.7a	26.	-45	HSF.IF.A.2 HSA.IF.A.1
5.	D	HSA.REI.B.3	14.	F, H	HSS.ID.C.7	27.	D	HSF.LE.A.2
6.	A	HSA.CED.A.4	15.	D	HSA.CED.A.2 HSF.LE.A.2	28.	A	HSA.CED.A.2 HSF.LE.A.2 HSS.ID.C.7
7.	C	HSA.REI.B.3	16.	G, I, J	HSA.CED.A.2	29.	D	HSF.IF.A.2 HSF.IF.B.5
8.	D	HSA.CED.A.1 HSA.CED.A.3	17.	D	HSS.ID.C.7	30.	D	HSS.ID.C.7 HSS.ID.B.6
9.	C	HSA.REI.B.3	18.	C	HSA.CED.A.1	31.	C	HSS.ID.B.6.A HSS.ID.B.6.C
			19.	A	HSS.ID.C.7	32.	A	HSF.IF.A.1 HSF.LE.A.2
			20.	C	HSS.ID.C.7	33.	H, J, K, L	HSF.BF.A.1 HSF.BF.A.2
			21.	$\frac{8}{5}$	HSA.CED.A.2 HSG.GPE.B.5			
			22.	A	HSA.CED.A.2 HSG.GPE.B.5			

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Algebra 1 Semester 1 Instructional Materials 2021-22 Answers					
Topic 4 Systems of Equations & Inequalities			Topic 5 Absolute Value Functions		
#	Ans	Standard	#	Ans	Standard
34.	B	HSA.REI.C.6	48.	A	HSA.CED.A.1
35.	G, I	HSA.REI.C.6	49.	B	HSA.CED.A.1
36.	A	HSA.REI.C.6 HSA.CED.A.2	50.	G, J	HSF.IF.B.4
37.	A	HSA.REI.C.6	51.	A	HSF.IF.C.7a
38.	D	HSA.REI.C.6 HSA.CED.A.2	52.	A	HSF.IF.C.7b
39.	B	HSA.REI.C.5 HSA.REI.C.6	53.	B	HSF.IF.C.7b
40.	C	HSA.REI.C.5 HSA.REI.C.6	54.	B	HSF.IF.B.4 HSF.IF.B.6
41.	D	HSA.CED.A.2	55.	C	HSF.IF.B.4
42.	2.50	HSA.REI.C.5 HSA.REI.C.6 HSA.CED.A.2 HSA.CED.A.3	56.	D	HSF.IF.C.7.b
43.	B	HSA.REI.D.12 HSA.CED.A.3	57.	C	HSF.BF.B.3
44.	C	HSA.REI.D.12 HSA.CED.A.3	58.	G, I	HSF.IF.C.7.b
45.	C	HSA.REI.D.12 HSA.CED.A.3	59.	B	HSF.BF.B.3
46.	D	HSA.REI.D.12 HSA.CED.A.3	60.	B	HSF.IF.B.4
47.	A	HSA.REI.D.12 HSA.CED.A.3	61.	D	HSF.BF.B.3

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