GRADE 7 ACCELERATED · UNIT 11 · PRACTICE TEST

Solving Equations and Systems

18 points

Name_____
Date_____
Period_____

Show your work for problems that require calculations. Each numbered question or lettered part is worth 1 point.

Solving Equations

9 points

1. An equation is shown. $2(3n - 4) + 5n = 25$ What value of n makes the equation true?

1 pt

2. An equation is shown. $9h + 4 = 5h - 24$ What value of h makes the equation true?

1 pt

3. An equation is shown. $-\frac{1}{2}(4m - 6) = 3(m - 4)$ What value of m makes the equation true?

1 pt

4. An equation is shown. $-1.5(4v - 2) = v - 11$ What value of v makes the equation true?

1 pt

5. Each equation has one solution, no solution or infinitely many solutions. Which? If it has one solution, find it.

a. $3(2x - 1) + 4 = 6x + 5$ *1 pt*

b. $6x + 5 = 5 - 3x$ *1 pt*

c. $5x - 2(x + 3) = 3x - 6$ *1 pt*

6. Complete the equation so that it has no solution. What number goes in the box?

$2(4x + 3) - x = \square x + 1$ *1 pt*

7. Storage company A charges a $35 move-in fee and $9 a month. Company B charges $14 a month and no fee. After how many months will the two companies have cost the same? *1 pt*

Solutions of a System

2 points

8. Select all the systems that have $(3, -2)$ as a solution. *1 pt*

- ☐ A. $y = x - 5$ and $y = -2x + 4$
- ☐ B. $y = 2x - 8$ and $y = x - 4$
- ☐ C. $y = -x + 1$ and $y = 3x - 11$
- ☐ D. $y = 4x - 14$ and $y = -x + 2$
- ☐ E. $y = -2x + 3$ and $y = x - 5$

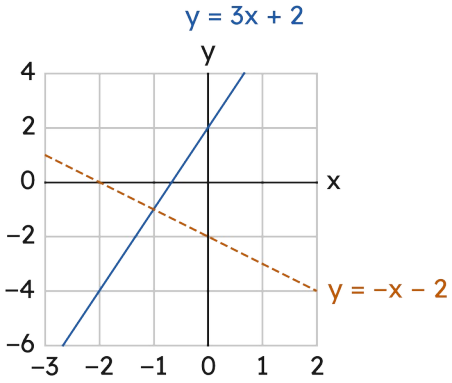
9. Is $(4, -1)$ a solution of the system $y = -x + 3$ and $y = 2x - 7$? *1 pt*

- ○ A. Yes — it makes $y = -x + 3$ true.
- ○ B. No — it makes $y = -x + 3$ false.
- ○ C. Yes — it makes both equations true.
- ○ D. No — it makes $y = 2x - 7$ false.

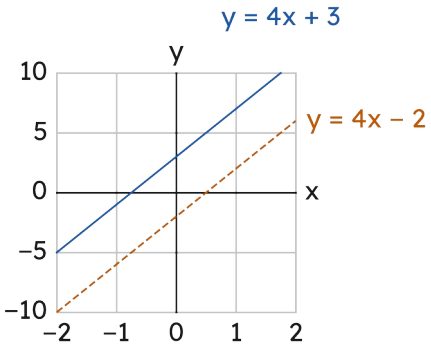
How Many Solutions a System Has

2 points

10. The graphs of the system $y = 3x + 2$ and $y = -x - 2$ are shown. How many solutions does the system have? *1 pt*



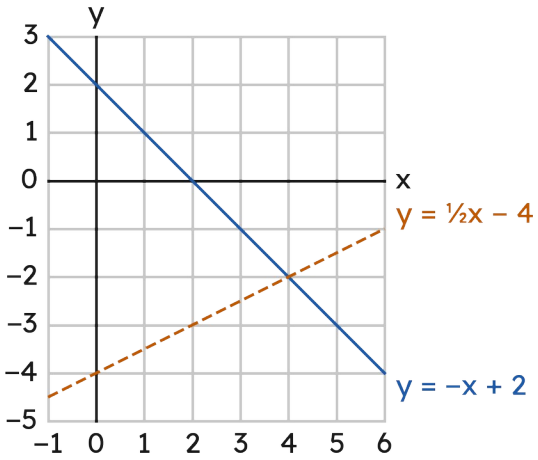
11. The graphs of the system $y = 4x + 3$ and $y = 4x - 2$ are shown. How many solutions does the system have? *1 pt*



Solving Systems by Graphing

5 points

12. A system of equations is graphed: $y = -x + 2$ and $y = \frac{1}{2}x - 4$. What is the solution of the system? Give its x and its y. *1 pt*



13. The tables are for $y = 2x - 5$ and $y = -x + 7$.

$y = 2x - 5$

x	0	1	2	3	4	5
y	−5	−3	?	1	3	5

$y = -x + 7$

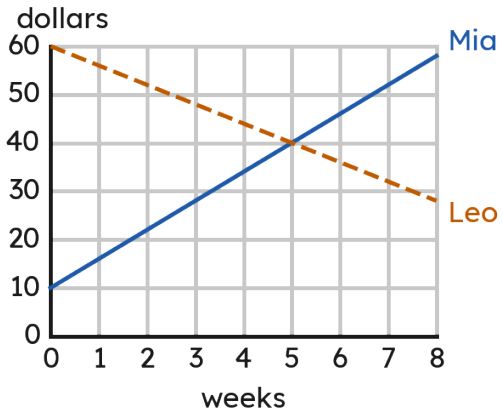
x	0	1	2	3	4	5
y	7	6	5	4	3	2

a. What number is missing from the table for $y = 2x - 5$? *1 pt*

b. What is the solution of the system? *1 pt*

14. Mia has \$10 and saves \$6 each week. Leo has \$60 and spends \$4 each week.

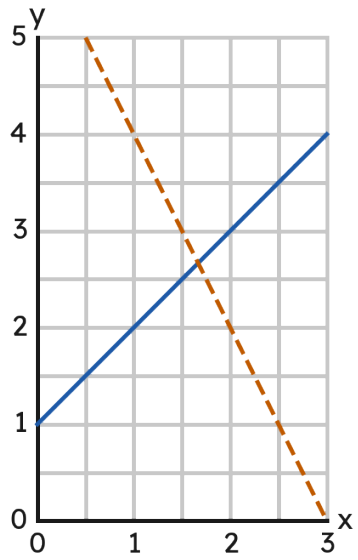
PART (a): Mia and Leo



PART (b): a different system

$y = x + 1$ (solid)

$y = -2x + 6$ (dashed)



a. The PART (a) graph shows the dollars y each has after x weeks. After how many weeks will Mia and Leo have the same amount, and how much will each have? *1 pt*

b. The PART (b) graph shows a different system, $y = x + 1$ and $y = -2x + 6$. Estimate its point of intersection to the nearest tenth. *1 pt*