Solving Variables on One Side Retake

StudentName 2023

Teacher Name

Trm: S1 Crs: ALG 1 FALL Sec: 01

Test Date: 9/6/2022

Assessment No.: 8675

1.A I can solve an equation with variables on one side (N) (1) (2) (●)

3 – Demonstrates learning target mastery

2 – Is in progress of learning target mastery

1 – Is not yet making progress or is making minimal progress toward learning target mastery

N – No evidence of learning target mastery

Comments:

Solve each equation below for the given variable.

1) $c - 8 = 32$ 1 pt

$+8 \quad +8$

$c = 40$

2) $-17 = 4 + 3p$ 2 pt

$-4 \quad -4$

$\frac{-21}{3} = \frac{3p}{3}$

$-7 = p$

3) $20 = -8y + 4$ 2 pts

$-4 \quad -4$

$\frac{16}{-8} = \frac{-8y}{-8}$

$-2 = y$

4) $\frac{x}{3} - 8 = 22$ 2 pts

$+8 \quad +8$

$\frac{x}{3} = 30$

$x = 90$

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5) $-(3n-1)=82$ 3 pts

$-3n+1=82$
$-1 \quad -1$
$\frac{-3n}{-3}=\frac{81}{-3}$
$n=-27$

6) $4(2+3y)-y=41$ 3 pts

$8+12y-y=41$
$-8 \quad -8$
$12y-y=33$ (combine here)
$-12 \quad -12$
$\frac{11y}{11}=\frac{33}{11}$
$y=3$

$-\frac{1}{2}$

7) $4m-18-m=6$ 3 pts

$3m-18=6$
$+18 \quad +18$
$\frac{3m}{3}=\frac{24}{3}$
$m=8$

8) $24=2(x+8)+14$ 3 pts

$24=2x+16+14$
$24=2x+30$
$-30 \quad -30$
$\frac{-6}{2}=\frac{2x}{2}$
$x=-3$

9) $-4(4v+1)+3(2v+1)=-21$ 4 pts

$-16v+-4+6v+3=-21$
$-10v-4+3=-21$
$+4 \quad +4$
$\frac{-10v}{-10}=\frac{-17}{-10}$
$v=2$

$-\frac{1}{2}$

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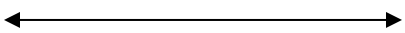
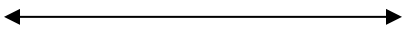
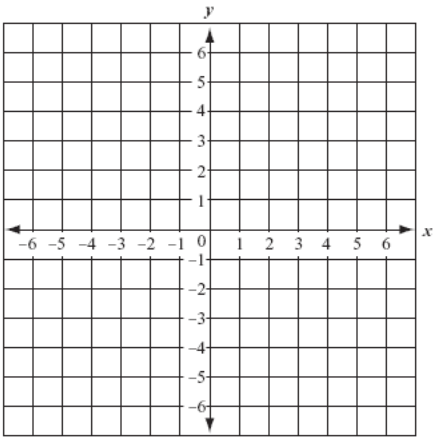
1. $4k - 10 = 26$	2. $\frac{a}{2} + 9 = 6$	1. ⓪ ① ② 2. ⓪ ① ②
3. $6 + 2(2 + n) = 13 + 2n$	4. $61 = -3a + 8(6a + 2)$	3. ⓪ ① ② ③ 4. ⓪ ① ② ③ ④
5. $-4(1 - 7x) = 2(8x - 8)$		5. ⓪ ① ② ③ ④

For questions 1-5, solve each equation. Show ALL work for full credit
For problems 6 and 7, solve AND graph each inequality. Show ALL work

6-7. $9 > n + 2$ 	8-9. $2x + 3 - 7x \leq -22$ 	6. ⓪ 7. ⓪ 8. ⓪ ① ② ③ 9. ⓪

Graph the system of equations. Then, determine if the system has one solution, no solution, or infinitely many solutions. If there is one solution, name it.

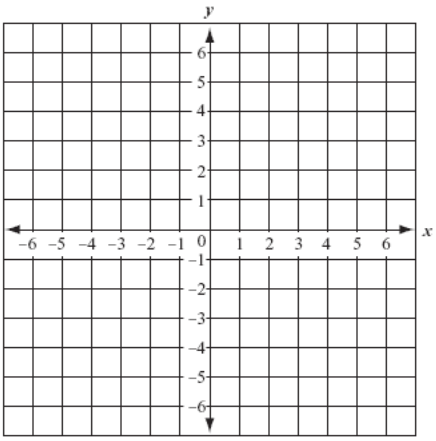
1. $y = -2x + 4$
   $y = 3x - 6$



1. _____

⓪ ① ② ③

2. $4x - 2y = 6$
   $-2x + y = 1$



2. _____

⓪ ① ② ③ ④ ⑤

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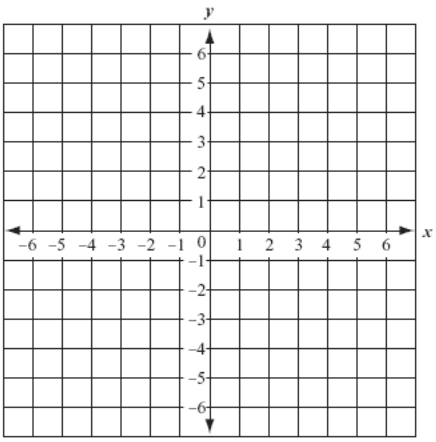
Graph the linear inequality

3. $2x + y < -3$

3. ⓪ ① ② ③ ④

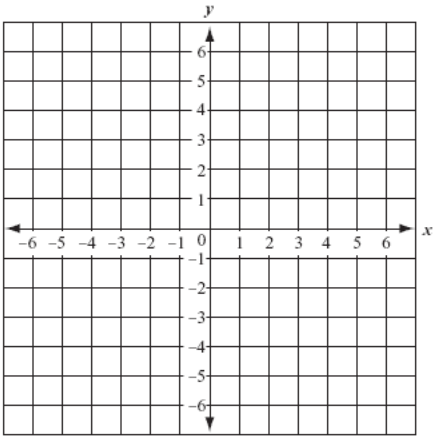


Graph the system of inequalities

4. $y > \frac{1}{2}x + 1$

$y \leq -x + 3$

4. ⓪ ① ② ③ ④ ⑤



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Find the *x*-intercept and *y*-intercept of the graph of each equation. DO NOT GRAPH!!!

1-2. $6x - 4y = 12$

1. *x*-intercept: _____ ⓪

2. *y*-intercept: _____ ⓪

3-4. $-2x + 5y = -10$

3. *x*-intercept: _____ ⓪

4. *y*-intercept: _____ ⓪

Find the slope of the line that passes through the points.

5. (4, 2) and (3, 4)

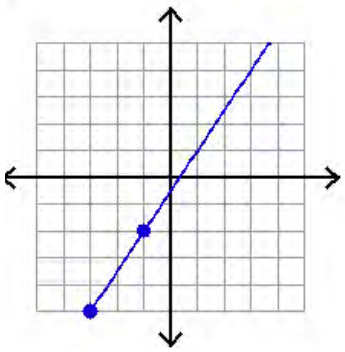
Slope: _____ ⓪ ① ② ③

6. (5, 1) and (5, -2)

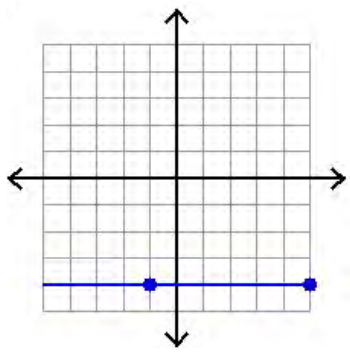
Slope: _____ ⓪ ① ② ③

Find the slope of the given graphs.

7. Slope: _____ ⓪ ① ②



8. Slope: _____ ⓪ ① ②



Identify the slope and *y*-intercept of the line with the given equation.

9-10. $y = 8x - 3$

9. Slope: _____ ⓪

10. *y*-intercept: _____ ⓪

11-13. $2x + 9y = 9$

11. Slope-Intercept Form_____ ⓪ ① ②

12. Slope: _____ ⓪

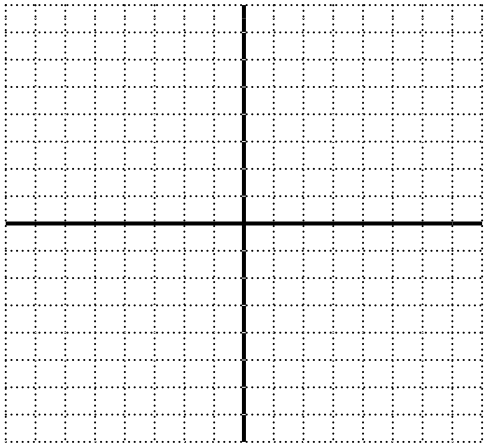
13. *y*-intercept: _____ ⓪

Graph each equation and find the domain, range, and end behaviors.

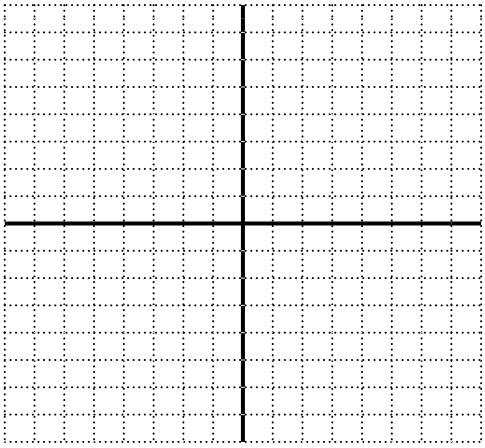
14-18. $y = 5x + 2$

19-23. $y = -\frac{1}{2}x - 3$

14. Graph ⓪ ① ②



19. Graph ⓪ ① ②



15. Domain: _____ ⓪

16. Range: _____ ⓪

End Behavior

17. $x \to -\infty, y \to$ _____ ⓪

18. $x \to \infty, y \to$ _____ ⓪

20. Domain: _____ ⓪

21. Range: _____ ⓪

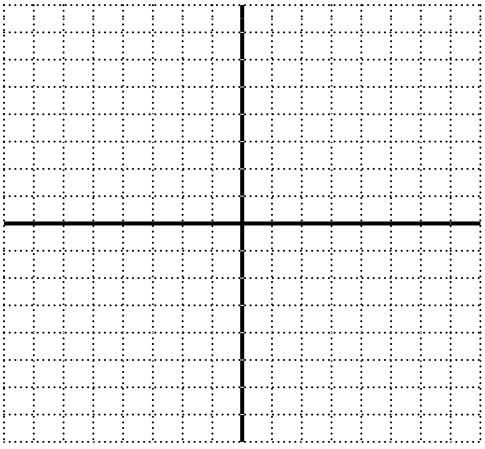
End Behavior

22. $x \to -\infty, y \to$ _____ ⓪

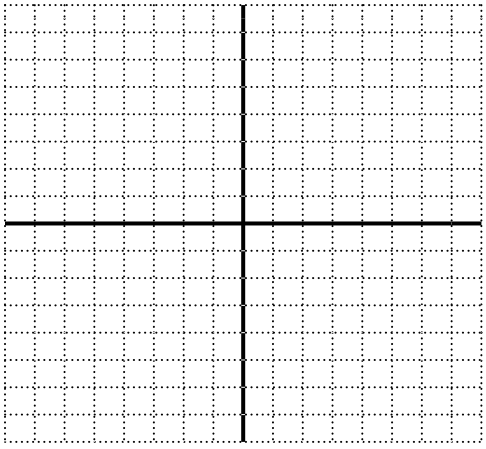
23. $x \to \infty, y \to$ _____ ⓪

Graph each equation below.

24. $2x + y = -6$ ⓪ ① ② ③



25. $x = 4$ ⓪



Determine whether the equation represents a direct variation.

26. $y = 4x$

Direct Variation (circle answer) ⓪

YES NO

27. $y = -3x + 9$

Direct Variation (circle answer) ⓪

YES NO

MULTIPLE CHOICE Circle the correct answer. (1 point each)

28. The slope of the line that passes through the points (-2, 4) and (-3, 7) is __?__.

Ⓐ negative
Ⓑ positive
Ⓒ undefined
Ⓓ zero

29. What is the value for *y* for the line that has a slope of $-\frac{3}{2}$ and passes through the points (3, 5) and (7, *y*) ?

Ⓐ – 11
Ⓑ – 10
Ⓒ – 1
Ⓓ 20

30. If the variables *x* and *y* represent a direct variation and *y*= 5 when *x* = – 10, which equation correctly represents this direct variation?

Ⓐ $y = 5x$
Ⓑ $y = -10x$
Ⓒ $y = -2x$
Ⓓ $y = -\frac{1}{2}x$

31. What is the slope of the line with the equation $3x - 5y = 2$?

Ⓐ $-\frac{3}{5}$
Ⓑ $\frac{1}{5}$
Ⓒ $\frac{5}{3}$
Ⓓ $\frac{3}{5}$

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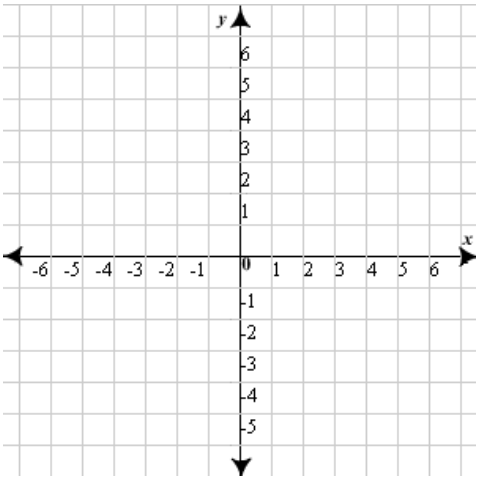
For questions 1-5, identify the quadrant or axis the points lie on. Then graph and label the points

1. A: (-4, 6) _____
2. B: (0, -3) _____
3. C: (1, -1) _____
4. D: (5, 0) _____
5. E: (-2, -4) _____



1.	0 1 2
2.	0 1 2
3.	0 1 2
4.	0 1 2
5.	0 1 2

Use the functions below for questions 6-11 and evaluate at the given value.

$f(x) = -2x + 3$ $g(x) = 4^x$ $h(x) = x^2 + 4$

6. $g(3) =$	7. $h(-2) =$	6. 0 1 2 7. 0 1 2
8. $f(9) =$	9. $h(1) - 3 =$	8. 0 1 2 9. 0 1 2 3
10. $f(3a) =$	11. $f(2y - 1) =$	10. 0 1 2 11. 0 1 2 3

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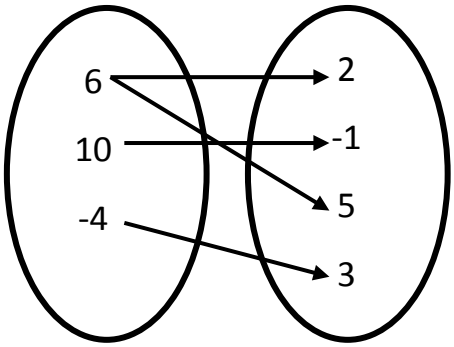

12. Does this mapping represent a function? Why?	12. ⓪ ① ②
13. What is the domain of this relation?	13. ⓪ ①
14. What is the range of this relation?	14. ⓪ ①
15. Write the inverse of this relation	15. ⓪ ①

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

16. Does this mapping represent a function? Why?	16. ⓪ ① ②
17. What is the domain of this relation?	17. ⓪ ①
18. What is the range of this relation?	18. ⓪ ①
19. Write the inverse of this relation	19. ⓪ ①

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Solve each equation below for the given variable.

1) $\frac{x}{17} = -29$ 0 1

2) $r - (-6) = 1$ 0 1

3) $-12 = 17 - a$ 0 1 2

4) $-n - n = -8$ 0 1 2

5) $-4 = 6k - 8k$ 0 1 2

6) $x + 2x = -16 + 5x$ 0 1 2 3

7) $3x - 4x + 5 = -x + 9$ 0 1 2

8) $-2-6k-7k=-2-4k$ ⓪ ① ② ③ ④

9) $8n+36=6(n+8)$ ⓪ ① ② ③ ④

10) $-4(6x-1)=4-4x$ ⓪ ① ② ③ ④

11) $8(p+7)=-2(-7p-7)$ ⓪ ① ② ③ ④

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12) $2(4x - 6) = 4(2x - 3)$ ⓪ ① ② ③ ④

13) $24 - 7r = -3(1 - 5r) + 5r$ ⓪ ① ② ③ ④ ⑤

It costs $30 a year to join Durak's House of Muscle. Each time a member enters, they must pay a fee of $2. When a nonmember shows up, they pay a fee of $5. After how many visits will the member's costs equal the nonmember's cost.

14) Variable _____ ⓪ ①

15) Equation _____ ⓪ ①

16) Answer _____ ⓪ ① ②

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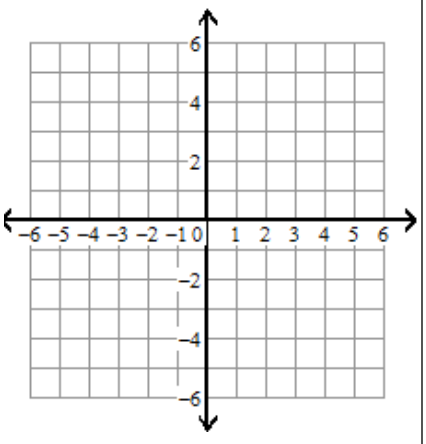
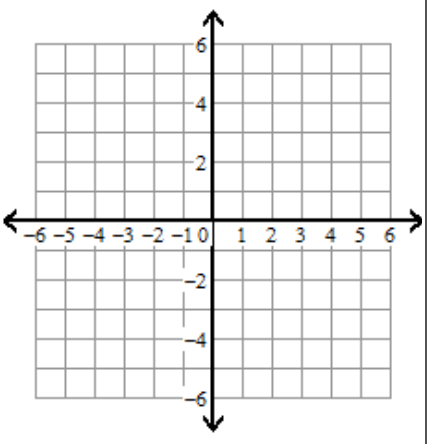
Solve the compound inequality. Do NOT graph. Show all work.

10. $12 < 4x + 4 \leq 16$	10. ⓪ ① ② ③

Establish a variable, write an equation, and solve the word problem below. Be sure to label your answer.

A contractor purchases ceramic tile to remodel a kitchen floor. Each tile costs $4, and the adhesive and grouting material costs $17.82. If the contractor is charged a total of $545. 82, how many ceramic tiles did he purchase? 11. Variable:_____ 12. Equation:_____ 13. Solution:_____	11. ⓪ 12. ⓪ 13. ⓪

Sketch the graph of each line below

14. $y = 2x + 3$ 	15. $x + 4y = 20$ 	14. ⓪ ① ② 15. ⓪ ① ② ③

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Find the <u>slope</u> of the line through each pair of points

16. $(3, -12)$ and $(-20, -12)$	17. $(-9, 14)$ and $(-17, 16)$	16. ⓪ ① ② 17. ⓪ ① ②

For problems 16-18, write the <u>slope-intercept form of the equation</u> of the line with the given characteristics

18. Slope = $\frac{1}{2}$ y –intercept = -5	18. ⓪
19. Slope = 2 through the point $(3, 4)$	19. ⓪ ① ② ③
20. Through the points $(-5, -3)$ and $(-1, 1)$	20. ⓪ ① ② ③ ④

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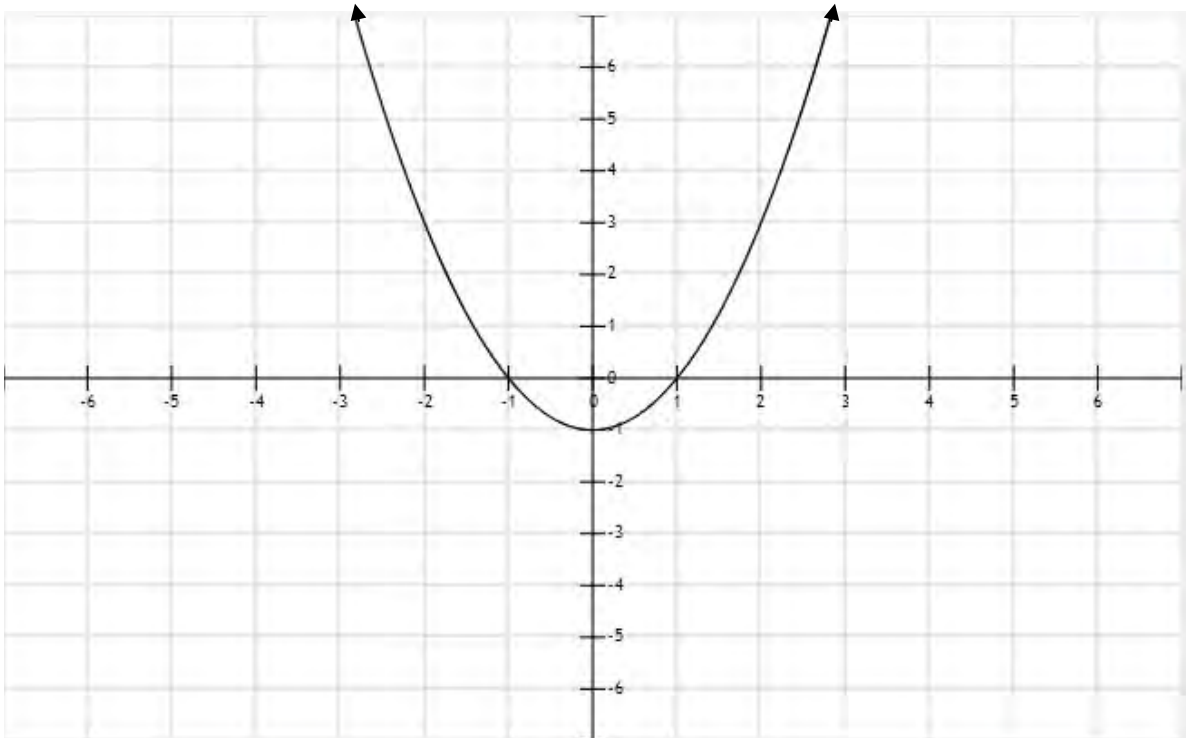
Use the graph below to answer questions 21-26.



21.Domain:_____	21. ⓪
22. Range:_____	22. ⓪
23. $x \to -\infty, f(x) \to$_____	23. ⓪
24. $x \to \infty, f(x) \to$_____	24. ⓪
25. x-intercept(s):_____	25. ⓪ ① ②
26. y-intercept(s):_____	26. ⓪