ALGEBRA I SUMMER MATH PACKET 2026 Name_____

SHOW ALL WORK

Find the sum, difference, product or quotient of the integers **WITHOUT** a calculator.

1. $5 - 7 =$
2. $-5 + 7 =$
3. $-5 - 7 =$
4. $5 + (-7) =$
5. $-8 - 2 =$
6. $-6 - (-3) =$
7. $-5 + 5 =$
8. $10 - 12 =$
9. $-5 \bullet 7 =$
10. $(-4)(-6) =$
11. $\frac{-16}{-2} =$
12. $14 \div (-7) =$
13. $1 - 2 + 3 =$
14. $-4 + 5 - (-6) =$
15. $7 + (-8) - 9 =$
16. $(1) \bullet (-2) \bullet (3) =$
17. $(-4)(5)(-6) =$
18. $(-7)(-8)(-9) =$

Use order of operations (**PEMDAS)** to simplify the following expressions. Show all steps.

19. $-4(5^2 - 32 \div 8) =$
20. $\frac{48 - 16 \div 2^3}{3 + 5 \bullet 4} =$

Simplify the following expressions. Pay close attention to **combining like terms** (CLT).

21. $7x + 6 + 12x - 4 =$
22. $9h - 12y - 10h + 11y =$
23. $5x + 6y - 12 =$
24. $7x^2 + 12x + 3x^2 + 5x =$

Use the **distributive property** to simplify the following expressions.

25. $7(x + 4) =$
26. $5(2x - 6) =$
27. $-3(4x - 5) =$

Calculate the **mean, median, mode and range** of the following data sets. You may use a calculator.

28. $4, 4, 4, 6, 7, 8, 10, 12, 15, 20$

29. $5, 23, 12, 5, 9, 18, 12, 4, 10, 21, 8, 25, 13$

Solve the following equations.

30. $x + 15 = 3$

31. $-7w = 35$

32. $\frac{p}{3} = -10$

33. $4x - 12 = 10$

34. $9 + 4y = -11$

35. $-5a - 9 = -9$

36. $0 = 2x + 10$

37. $2(x - 3) = -11$

38. $5y + 6 = 3y + 12$

Evaluate the following expressions with the given value (substitute and simplify).

39. $4x + 10$, when $x = -3$

40. $-x + 2$, when $x = -8$

41. $\frac{x}{2} - 7 + 3x$, when $x = 6$

Given the following equations, identify the **slope** and the **y-intercept.**

42. $y = \frac{1}{2}x - 5$

43. $y = x + 2$

44. $y = 7 - 2x$

Find the **slope** between the following two points.

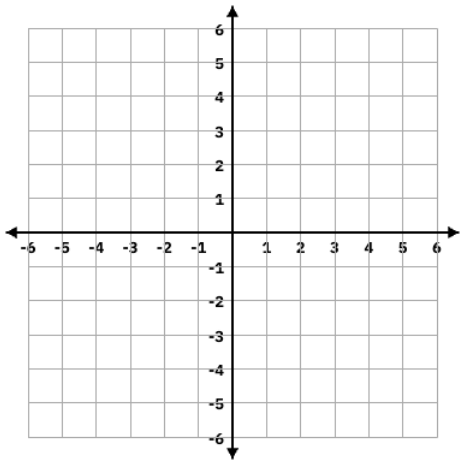
45. $(3\,,5)\ and\ (4\,,7)$

46. $(-3\,,5)\ and\ (-7\,,7)$

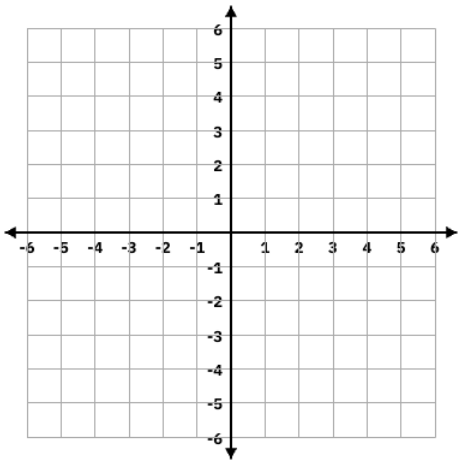
47. $(1\,,8)\ and\ (5\,,8)$

Graph the following equations.

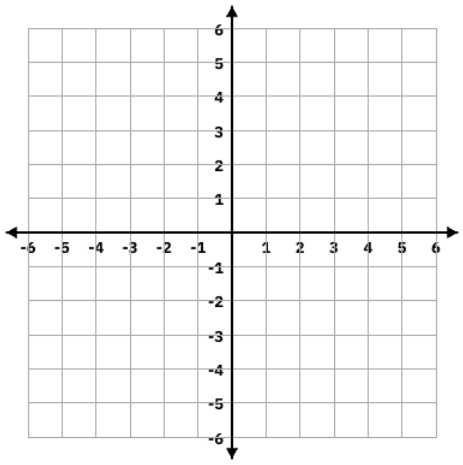
48. $y = 3x - 2$



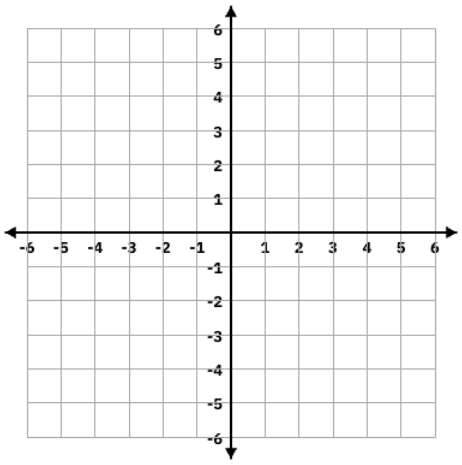
49. $y = -\frac{2}{3}x + 3$



50. $y = x + 1$

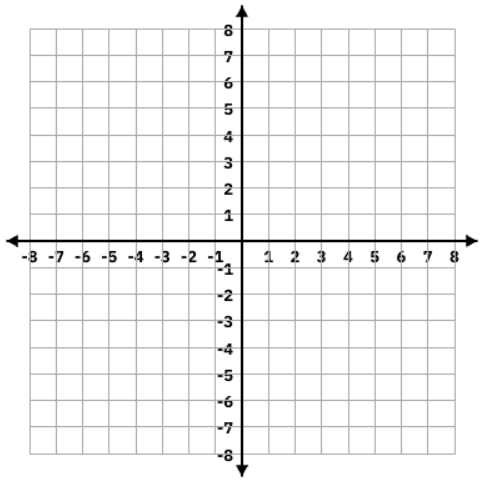


51. $y = -4x$

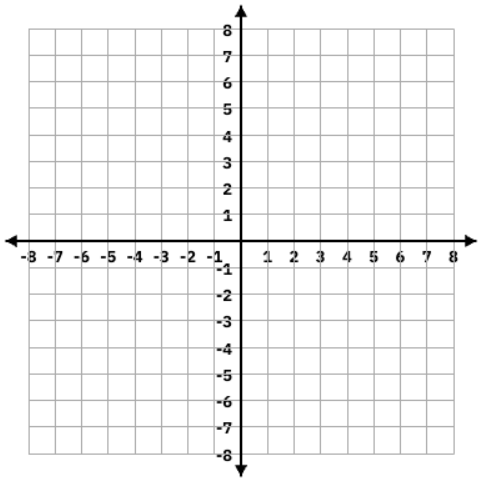


Graph the following equations by converting to slope-intercept form.

52. $3x + y = -1$

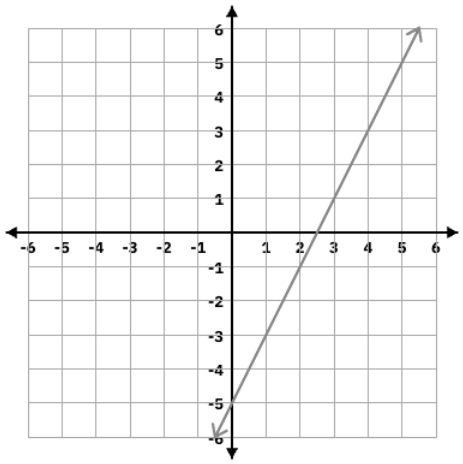


53. $-4x + 2y = 8$

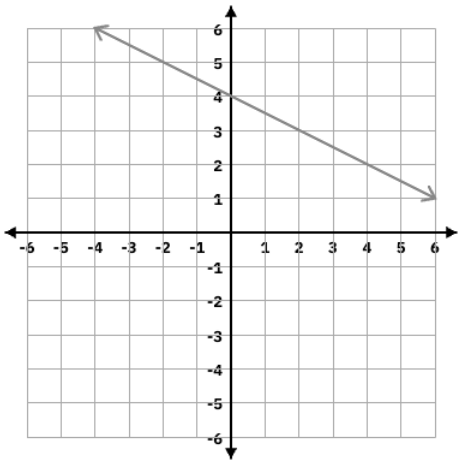


Write the equation of the lines in slope-intercept form.

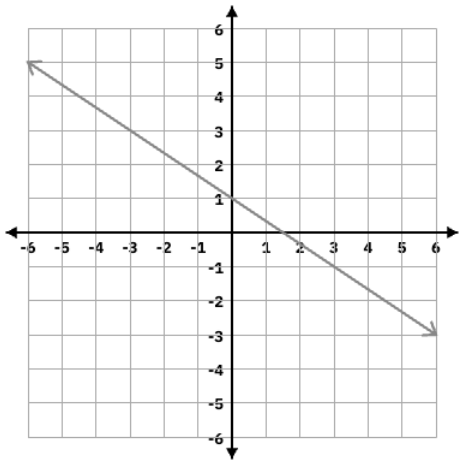
54.



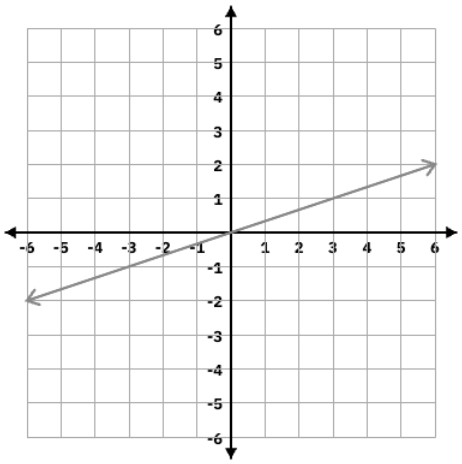
55.



56.



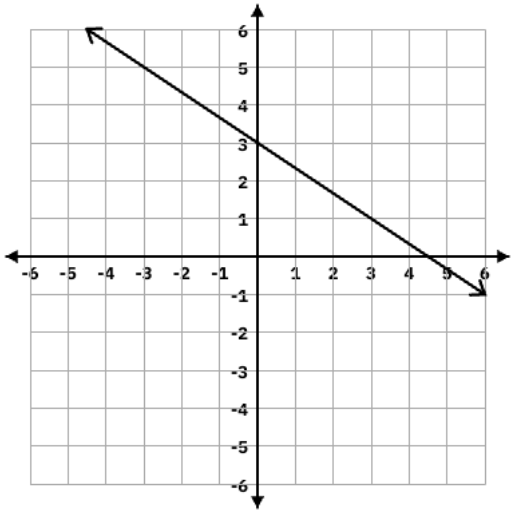
57.



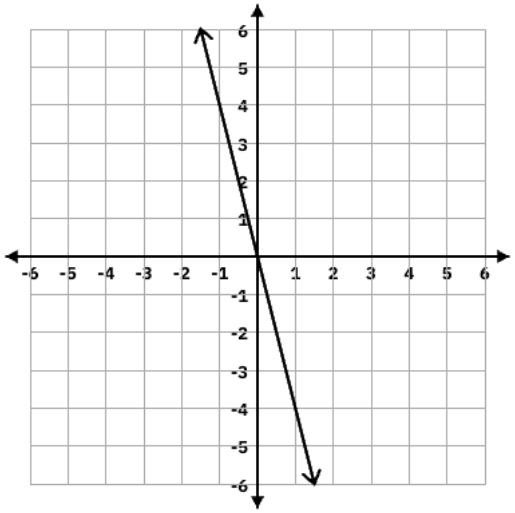
Answer Key: [odds only]

1) -2	3) -12	5) -10	7) 0	9) -35	11) 8
13) 2	15) -10	17) -120	19) -84	21) $19x + 2$	23) $5x + 6y - 12$
25) $7x + 28$	27) $-12x + 15$	29) Mean: 12.7 Median: 12 Mode: 5 & 12 Range: 21	31) $w = -5$	33) $x = 5.5$	35) $a = 0$
37) $x = -2.5$	39) -2	41) 14	43) Slope is 1 y-intercept: (0, 2)	45) $m = 2$	47) $m = 0$

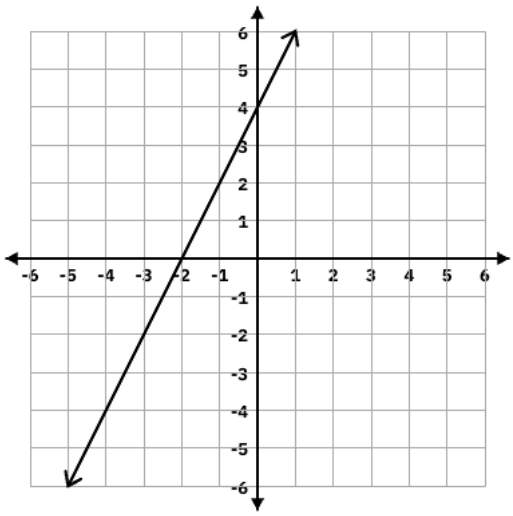
49)



51)



53)



55) $y = -\frac{1}{2}x + 4$

57) $y = \frac{1}{3}x$