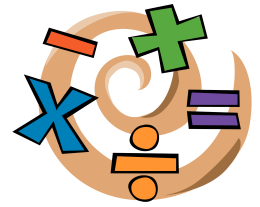


Name _____



Summer Math Review Questions
Rising 8th Grade

This packet is to help you keep your math skills sharp over the summer break and is due when we return to school in September. Work should be completed on a separate piece of paper. Please show all work when possible. You are encouraged to complete a few questions each week and should not wait until the end of summer to complete everything. It is okay to ask for help from an adult!

Integer Addition and Subtraction Practice:

Think of the - as meaning "taking away" and the + or a positive number as meaning "giving".

So, $-18 + 10$ means I took away 18 and gave back 10, so how many are still taken away? $-18 + 10 = -8$.

For the problems below:

- If you see a "--", change it to a + and treat it like an addition problem.
- If you see a "+ -" change it to a - and treat it like a subtraction problem.

1. $-9 - 6 + 12 + 1 =$

2. $-6 + -7 =$

3. $-10 + 7 =$

4. $-2 + 3 + 7 + 4 =$

5. $0 - 1 + (-10) - 6 =$

6. $8 + 2 - (-1) =$

7. $6 + 9 + (-4) =$

8. $-8 + 0 - 2 =$

9. $-10 + (-19) =$

10. $-11 + 2 - 2 =$

Integer Multiplication and Division Practice:

For the problems below:

- Both positive? Answer will be **positive**.
- Both negative? Answer will be **positive**.
- One positive, one negative? Answer will be **negative**.

11. $-2 \cdot (-9) =$

12. $7 \cdot (-11) =$

13. $-34 \div 2 =$

14. $-8 \div 2 =$

15. $22 \div (-2) =$

16. $90 \cdot (-6) =$

17. $-3 \cdot (-3) \cdot 3 =$

18. $12 \cdot (-4) \cdot 8 =$

19. $10 \div (-1) \cdot 4 =$

Order of Operations Practice:

Think: PEMDAS

20. $-4(2 + 1) =$
21. $17 + (-4) \div 2 =$
22. $10^2 \div (-5) =$
23. $-3(2 + 1) \cdot (-1) =$
24. $-18 + 7(6) =$
25. $-99 \div (-13 + 2) =$
26. $78 + (-5 \cdot (-1)) \div 2 =$
27. $6^2 \cdot (-1) =$
28. $-2^2 \cdot (8 - 10) =$
29. $9(2 \cdot 1) =$
30. $3 + 5 \cdot -5 + 1^2 =$

Combining Like Terms Practice:

Adding/Subtracting Rules: You can ONLY add or subtract like terms. Like terms are things with letters (variables) and things without letters.

For example:

- I CANNOT add $2x + 3$, because they are not like terms. The final answer to this problem is just $2x + 3$.
- I CAN add $2x + 2x$, because they are like terms. This gives me an answer of $4x$.
- I CAN subtract like terms in $6x + 4 - 3x$ to get the answer $3x + 4$.

Multiplying/Dividing Rules: You CAN multiply and divide unlike terms. Just be sure to include the variable with the answer.

For example:

- $2x \cdot -10 = -20x$, multiply the numbers and keep x with the answer
- $-15x \div 3 = -5x$, divide the numbers and keep x with the answer

31. $3x - 9x =$
32. $44x + -2x + 10 =$
33. $-16b + 2b - 18b =$
34. $7 \cdot -10y =$
35. $8x + 2 - 3x + 4 =$
36. $8(m + 2) - 2 =$
37. $m^2 + 7 - 12 =$
38. $v - 7 - 1 + 3v =$
39. $\sqrt{64} + 90 - 7x =$
40. $10x \div 2 =$

Solve each problem involving negative integers.

41. $-9 + (-5) =$

42. $-20 + 33 =$

43. $(-2)(-88) =$

44. $-34 \div 2 =$

45. $8 - 11 =$

46. $8 - (-8) =$

47. $(16)(-3) =$

Solve each problem using the Order of Operations.

48. $-6(8 - 9) =$

49. $3(3 \div (-1.5)) =$

50. $(-9 + 2) + (-6 + (-10)) =$

51. $2 + (-3 + (-10)) + 2^2 =$

52. $(10 + 0)^2 - 94 =$

53. $64 \div (-8) + 10 =$

54. $(90 - 5^3) \cdot (-2) =$

Evaluate each expression using the value given for each variable.

Hint: Substitute the value in for the variable, then follow the Order of Operations. I.e. Evaluate $m + 10$, when $m = 6 \rightarrow 6 + 10 = 16$.

55. $y \div 2 + x$; use $x = 1$, and $y = 2$.

56. $a - 5 - b$; use $a = 10$, and $b = 4$

57. $p^3 + 10 + m$; use $m = 9$, and $p = 3$

58. $y - (z + z^2)$; use $y = 10$, and $z = 2$

59. $6 \div 6 + z + x - y$; use $x = 2$, $y = 5$, and $z = 6$

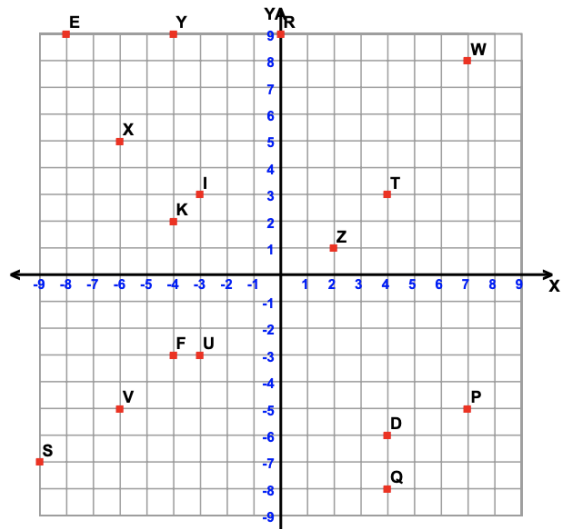
60. $y \div 5 + 1 + x \div 6$; use $x = 6$, and $y = 5$

61. $y + 9 - x$; use $x = 1$, and $y = 3$

62. $m + p \div 5$; use $m = 1$, and $p = 5$

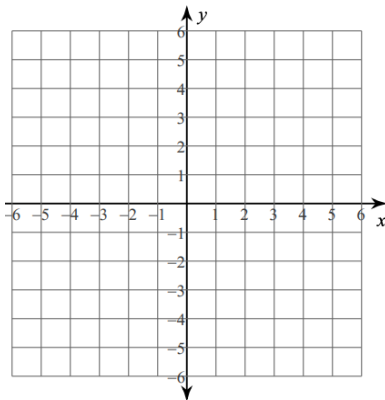
Use the coordinate plane below to answer the questions.

- 63. Which letter is at the point (4,-8)?
- 64. Which letter is at the point (-3,3)?
- 65. Which letter is at the point (-6,-5)?
- 66. What are the coordinates of point Z?
- 67. What are the coordinates of point S?
- 68. What are the coordinates of point X?



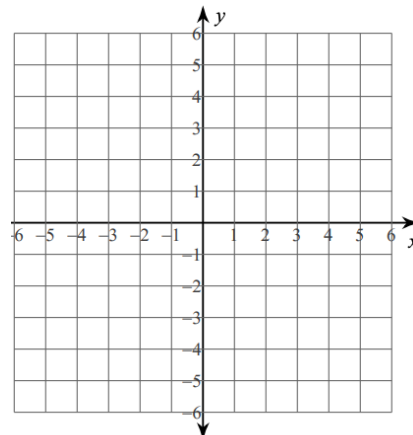
Graph Each Equation

$$y = \frac{1}{4}x - 1$$



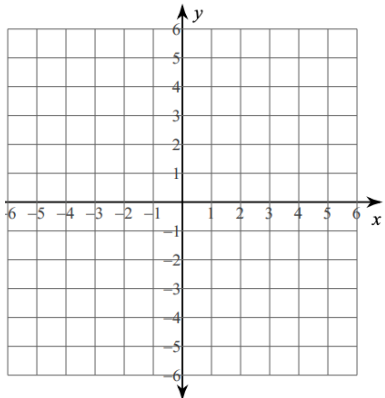
69.

$$y = -3x - 3$$



70.

$$y = 4$$



71.

Solve Each Equation

72. $5p - 14 = 8p + 4$

73. $p - 4 = -9 + p$

74. $-8 = -(x + 4)$

75. $12 = -4(-6x - 3)$