

Middle School: _____

Purpose:

The summer math packet is designed to help you review and reinforce important math concepts and skills from Middle School. Completing this packet over the summer will prepare you for the academic challenges of Algebra 1 and give you a strong head start for the school year.

Teachers may also use this packet to help form appropriate intervention groups, ensuring that all students begin Algebra 1 with a strong and consistent foundation.

Instructions:

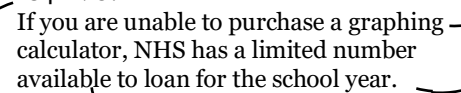
- This packet is **due on the first day of the second week of school** (August 31, 2026)
- Complete **all sections** of this packet.
- You may **use a calculator** on all questions.
- Show all your work** for each problem — this helps demonstrate your understanding.
- Circle your final answers.**
- It's okay if you need help with some questions — do your best and seek support when needed. At the bottom of each page, please note the problems you needed help with or you still don't know how to do.
- Your packet will be graded **based on effort**, so make sure to attempt each question and show all work so your teacher can see your thinking.

This assignment will be beneficial to you if you try your best and show what you truly know. Our goal is to make sure every student gets the best possible education, and knowing what you already understand helps us support you better.

The NHS Main Office can provide printed packets as needed.

**PLEASE USE THE FOLLOWING RESOURCE IF YOU NEED HELP
(address below or scan the QR code at the right):**

<https://www.khanacademy.org/math/get-ready-for-algebra-i>



Evaluate each expression. Show all work!

1) $-3 - 6 \div 2 - 12$

2) $1 + 2(7 - 10)^2$

3) $6(3)^2$

4) -6^2

5) $(-6)^2$

6) $(-5)^3$

7) $(4 + 3)(-1 + 5)^2$

8) $(-8 + 6) \div (3 - 1)^2$

Algebraic Expressions:

Evaluate the following expressions given $x = 5$, $y = -2$, $z = 7$

9) $5x + 3$

10) $2x + 4z$

11) $-3y - 4$

12) $z^2 - 9$

I got help on questions: _____ I still need help on questions: _____

Simplify each expression by combining like terms.

13) $x + 3x$

14) $2x + 7 + 5x - 2$

15) $-6 - 8x + 3 - 4x$

16) $-11x + 5 + 1 + 9x - x$

Simplify each expression using distributive property.

17) $4(x + 5)$

18) $6(3x - 1)$

19) $-8(-4x + 2)$

20) $7(6x - 4) + 3x$

Equations:

21) Write an equation and solve each of the following questions.

- a. Lara and Mae participated in a quiz contest. They scored 23 points in all. If Lara scored 9 points, how many points did Mae score?

- b. John was gifted a pack of crayons. He gave 13 crayons to his friend Rhea and was left with 11 crayons. How many crayons did the pack contain?

I got help on questions: _____ I still need help on questions: _____

22) Is $x = 5$ a solution to $3x + 4 = 19$?

23) Is $x = -2$ a solution to $4x - 3 = 5$?

Solve each of the following equations.

24) $x + 7 = -2$

25) $2x + 5 = 13$

26) $-3x = -12$

27) $4(x - 5) = 20$

28) $\frac{w}{6} = -2$

29) $\frac{y}{50} = \frac{3}{100}$

30) $2x + 5 = 4x - 11$

31) $-3x + 7 + 5x - 2 = 3$

I got help on questions: _____ I still need help on questions: _____

Inequalities:

32) Define in words the meaning of each symbol.

$<$	$\leq$	$\geq$	$>$
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Comparing values: Fill in the blank with $<$, $>$ or $=$

33) -2 _____ 0

34) 10 _____ 10

35) 5 _____ -5

36) -2 _____ -5

Testing solutions to inequalities:

37) Is $x = 5$ a solution to the inequality
 $x + 7 < 20$?

38) Is $x = -1$ a solution to the inequality
 $2x - 4 \geq -6$?

39) Is $x = 3$ a solution to the inequality
 $10 - x \leq 12$?

40) Is $x = -8$ a solution to the inequality?
 $4 + x > -4$?

Solve each inequality:

41) $3x > 12$

42) $-4x > 24$

43) $6x - 4 \leq 8$

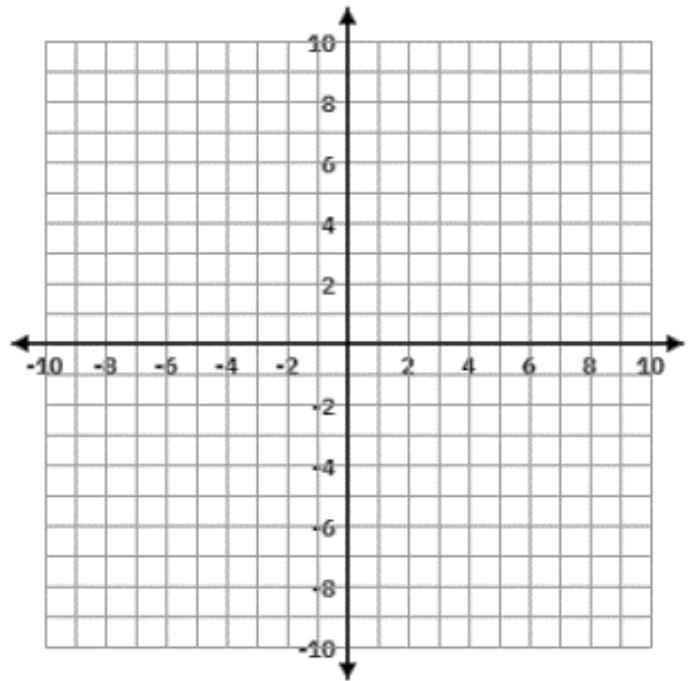
44) $-5x + 9 \geq -6$

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Graphing:

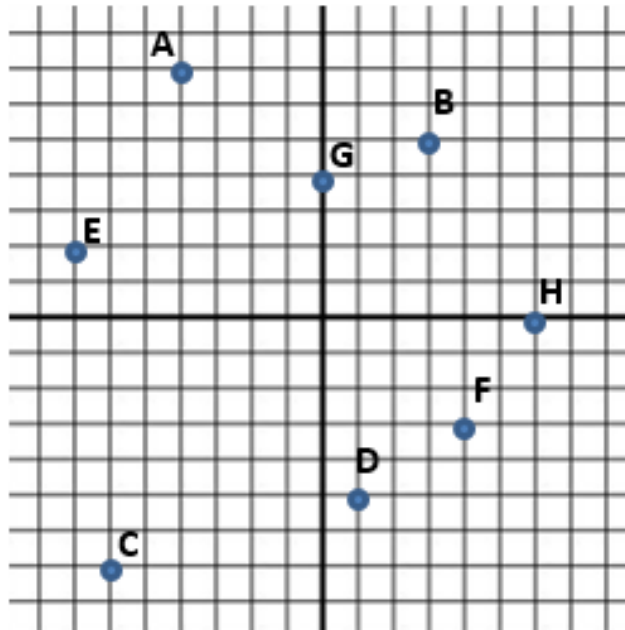
45) Using the grid provided, graph each of the following ordered pairs:

- a. $(2, 4)$
- b. $(-2, 4)$
- c. $(-3, -5)$
- d. $(7, -1)$
- e. $(0, 0)$
- f. $(0, 5)$



46) Give the coordinates for each point. Be sure to have your answer be a coordinate pair (x, y) .

A = _____ B = _____ C = _____ D = _____
E = _____ F = _____ G = _____ H = _____



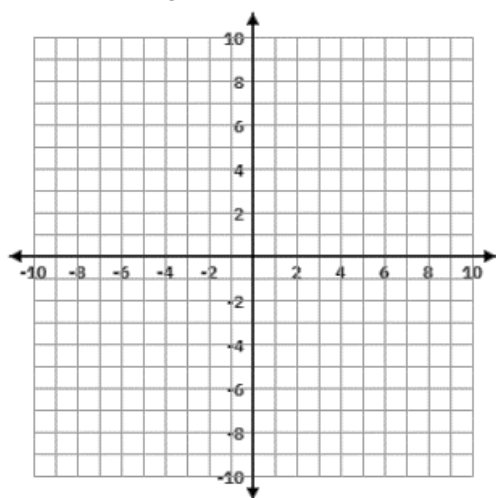
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47) Graph each of the following.

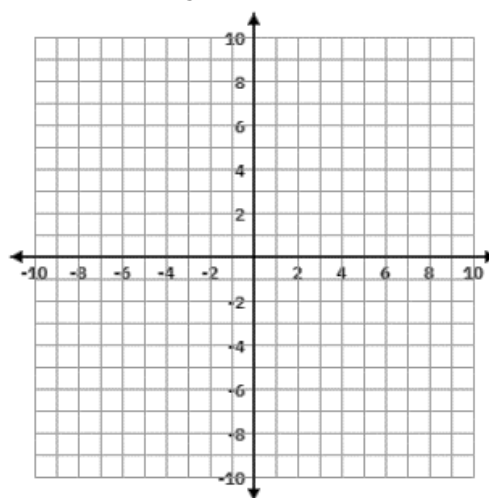
$x > 4$ 	$x \leq 7$ 
$x \geq 12$ 	$x < -3$ 

48) Graph each of the following on the graph provided.

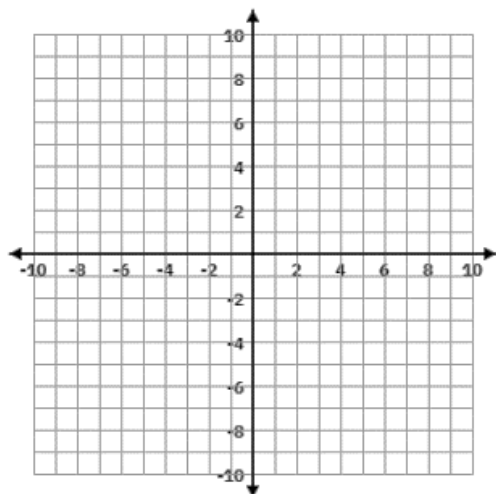
a) $y = \frac{2}{3}x + 1$



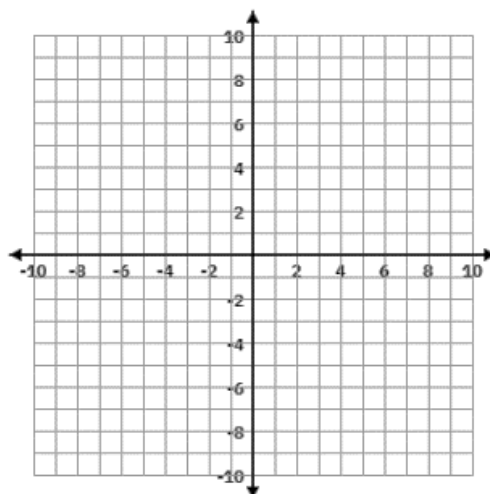
b) $y = \frac{-3}{5}x - 2$



c) $y = 4x - 7$



d) $y = -2x + 5$



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After completing this packet, please reflect on how you felt about the material.

- 1) Was there a topic that you felt the most comfortable with?
- 2) Was there a topic where you struggled most?
- 3) Are there specific questions you have for your teacher?
- 4) Were there any topics that did not look familiar from middle school?