Algebra 2 Honors
Summer Work Packet

DUE THE LAST DAY OF THE FIRST WEEK OF SCHOOL

Solve all problems. Show all of your work. Refer to the Khan Academy videos if you have questions about any of the material. You will use these skills every day in class, so make sure that you completely understand them and can solve problems without help.

Solving linear equations

1) $6b + 12.5 = 15.5 + 8b$

2) Ms. Smith had 70 stickers to give to students. She gave 3 to each student and still had 5 left. How many students were there? Write an equation to find the number of students who got stickers.

3) $5r - 12 + 4r = 3r + 8$

4) $4(-g + 7) = -(g - 8)$

5) $12v - 8 = 16(4 + \frac{1}{2}v)$

Linear equations with unknown coefficients

6) Solve for h.

$45 + 7h = 9h + qh$

Linear equations word problems

7) The sum of 4 consecutive odd integers is 64. Find the third number in this sequence.

Analyze the number of solutions to a system of equations

8) How many solutions does the following equation have?
$12z + 8 = 2(6z - 7)$

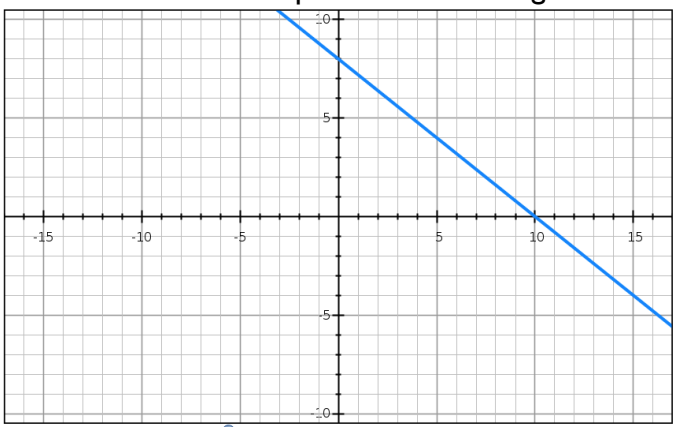
x-intercepts and y-intercepts

9) Determine the intercepts of the line that correspond to the following table of values

x	y
10	4
20	-2
50	-20

x-intercept (_____, _____) y-intercept (_____, _____)

10) Determine the intercepts of the following line.



x-intercept (_____, _____) y-intercept (_____, _____)

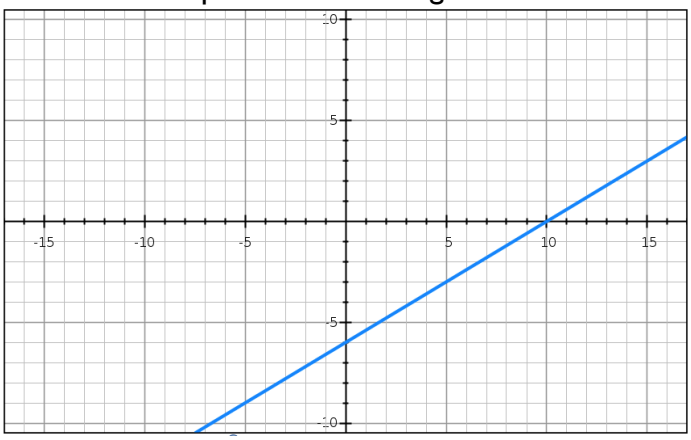
11) Determine the intercepts to the line $y = 4x + 15$.

x-intercept (_____, _____) y-intercept (_____, _____)

Slope

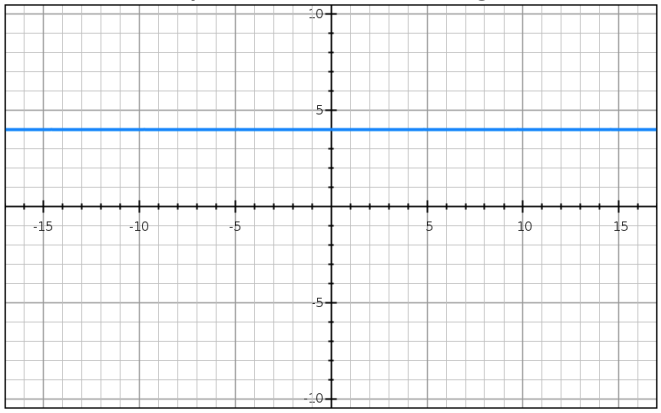
12) What is the slope of the line through the points (5, -10) and (8, 25)?

13) What is the slope of the following line?



Horizontal and vertical lines

14) What is the equation of the following line?

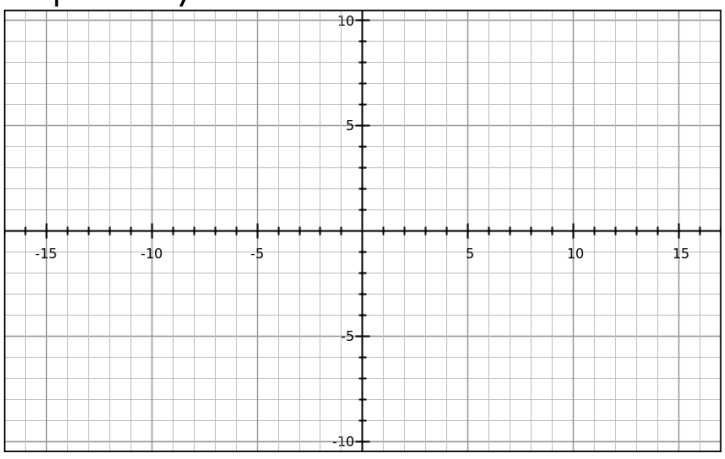


Writing the equations of and graphing lines

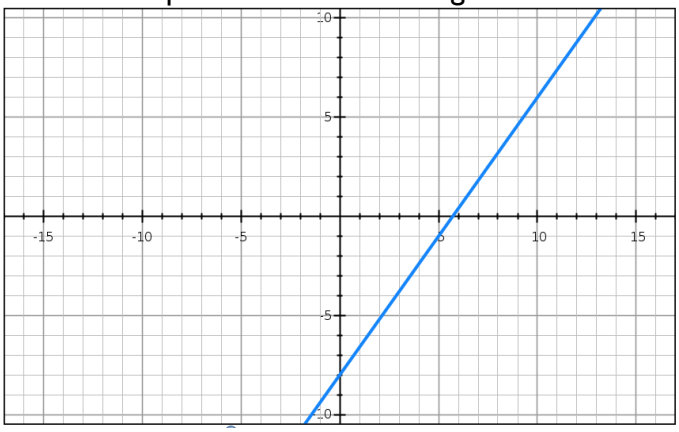
15) Write 2y + 5 = -3(x – 10) in standard form.

16) What is the slope of the line 2y + 5 = -3(x – 10)?

17) Graph 3x + 4y = 12



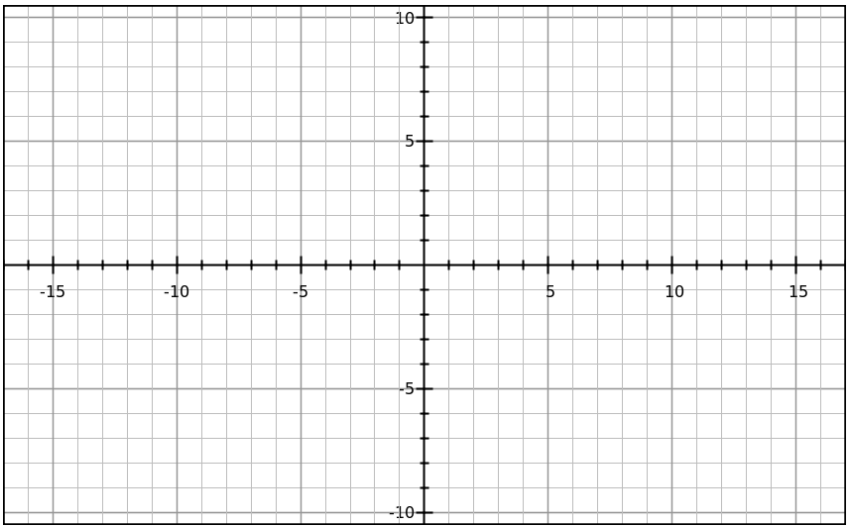
18) Write the equation of the following line.



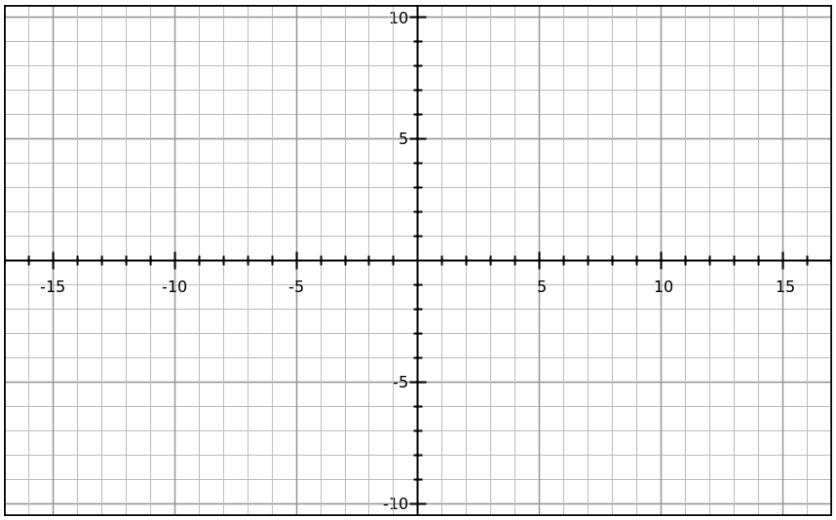
Solving systems of equations

Solve the following systems of equations by graphing.

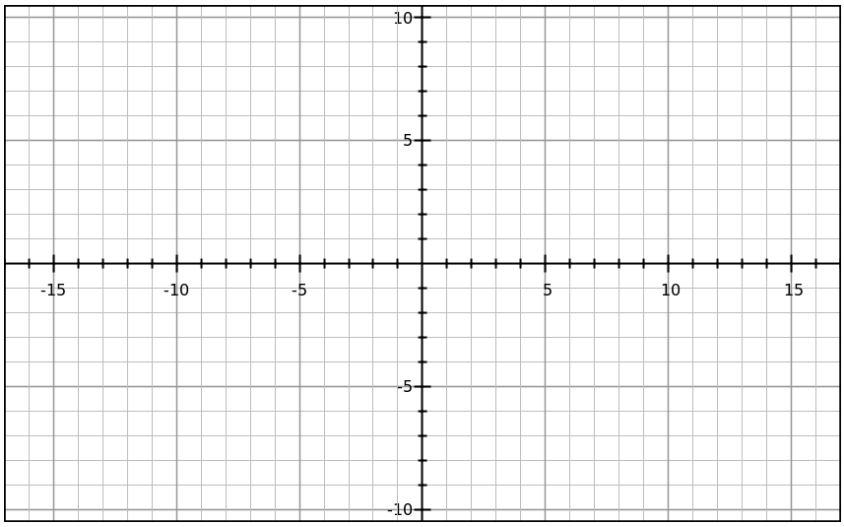
19) $y = x + 2$
$y = 3x - 2$



20) $y = 2x + 3$
$y = 2x + 1$



21) $y = -3x + 4$
$y + 3x = -4$



Solve the system of equations by using either substitution or elimination.

22) y = -x – 6
y = x – 4

23) $y = 3x - 2$
$x - y = 4$

24) $y = 2x - 10$
$y = 4x - 8$

25) $2y = 2x + 12$
$y = -2x - 3$

26) $4x + 3y = -5$
$-2x + 2y = 6$

27) $8x + 3y = 13$
$3x + 2y = 11$

28) $5x + 4y = -7$
$-5x - 2y = 1$