

**Summer Math Packet
Entering Algebra 2CP**

Name _____

Why?

To do your best work next school year, you will need to “hit the ground running” in the Fall. Studies show many students’ math skills decline over the summer months. This summer math packet is designed to fight that trend and keep your skills sharp.

When?

The attached problems are due on the first day of the school in late August or September.

How?

For best results, make a plan and spread the work out over the summer months. Do one page every week. 9 pages, 9 weeks....you’ll be done with time to spare!

Print a paper copy of this packet so you can show work.

Why show work?

- To earn full credit
- Helps retain math skills in the Summer
- Teacher can see your thought process

Good luck!

This page (#1-10) NO CALCULATOR

1) $(-3) - (-3)$

2) $(-1) + 3$

Simplify each expression.

3) $5 - 7(2 + 10n)$

4) $-8(1 - x) + 4$

5) $2m + 4 - 2m + 2$

6) $-7a - 4a$

Solve each equation. SHOW ALL WORK

7) $-21 = n + 6n$

8) $-20 = -3x + 5 - 2x$

9) $-5x + 2 + 6 = 8$

10) $-7 = 2x - 5 + 2$

CALCULATOR OK NOW. Solve each equation. SHOW ALL WORK

11) $-3(4 - 7k) = -138$

12) $-127 = -3(1 + 7k) + 2$

13) Check your solution to #11. Substitute your solution in the original equation and determine if it is correct. **SHOW ALL WORK** Is it correct? _____yes _____no

Solve each equation. SHOW ALL WORK

14) $-5(-7 - 5x) = 7x - 37$

15) $-4(8 - 6x) = 8x$

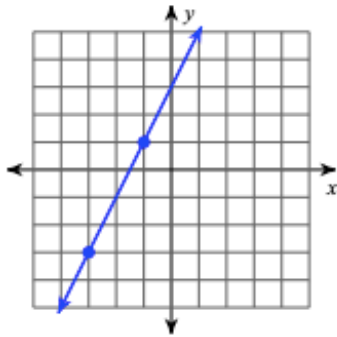
Solve each proportion. SHOW ALL WORK

16) $\frac{2}{k} = \frac{8}{7}$

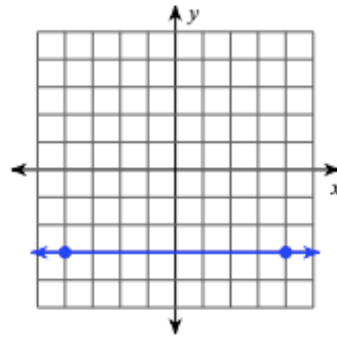
17) $\frac{6}{3} = \frac{4x}{x+3}$

Find the slope of each line.

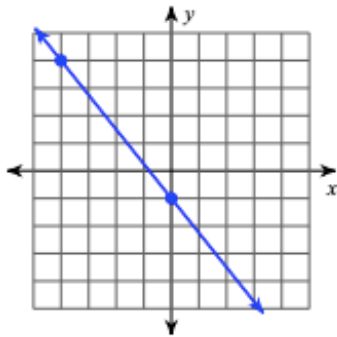
18)



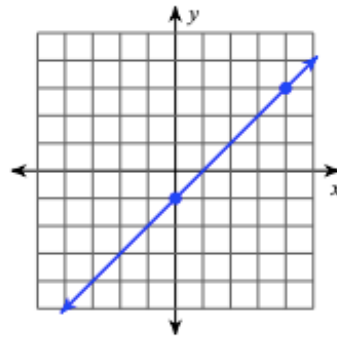
19)



20)



21)



22) $y = \frac{5}{2}x + 5$

23) $y = -2x - 5$

Find the slope of the line through each pair of points. SHOW ALL WORK

24) $(15, 17), (5, 2)$

25) $(16, -11), (-8, 13)$

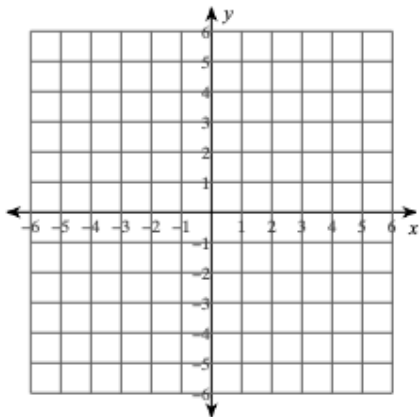
Find the slope of the line through the two points. SHOW ALL WORK

26) $(-3, 12), (-9, 9)$

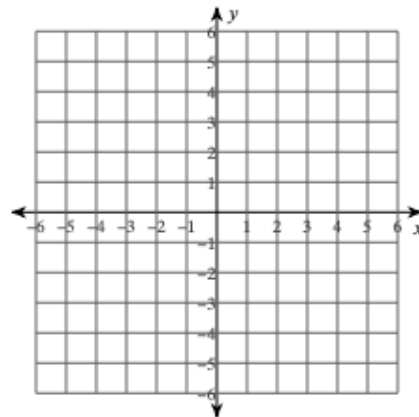
27) $(9, -5), (1, -17)$

Sketch the graph of each line.

28) $y = 2x - 3$

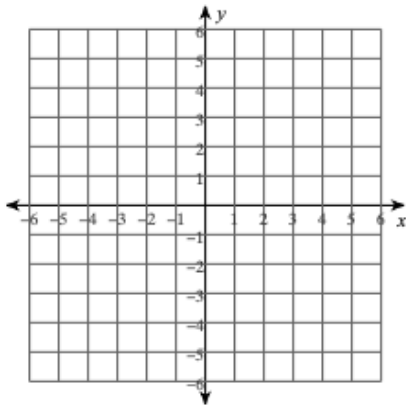


29) $y = -x + 2$

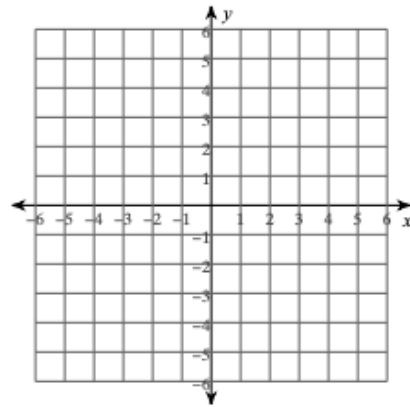


Sketch the graph of each line. Use intercepts OR solve for y first.

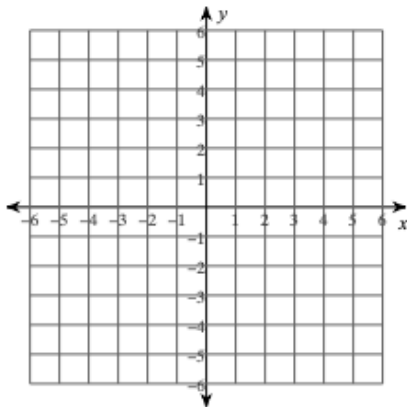
30) $y = -\frac{1}{2}x + 5$



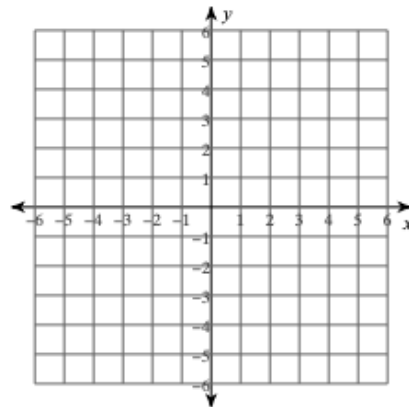
31) $y = -\frac{3}{4}x - 3$



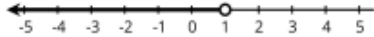

32) $2x - y = 2$



33) $3x - y = 2$

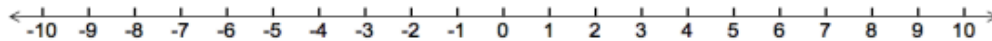


For #34-35, write an inequality for each graph.

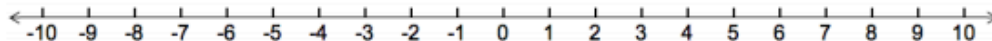
	Graph	Inequality
34.		
35.		

For #36-37, graph each inequality:

36. $m < 5$



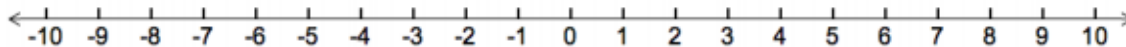
37. $n \geq -4$



38. Solve, graph and check $4x - 5 > 15$

a. Solve (show all work)

b. Graph the solution on the number line:



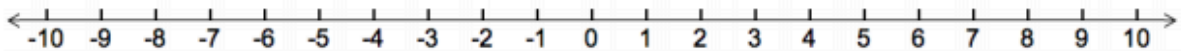
c. Check TWO values: Check the boundary value (should be equal)
and check $x = 0$ (should be true if 0 is in the solution, or false if 0 is outside the solution)

39.

$$4(x - 1) - 7x \leq 11$$

a. Solve (show all work)

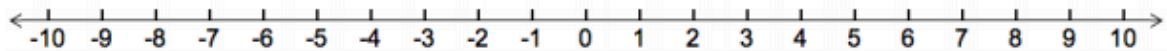
b. If there is a solution, graph the solution on the number line:

c. Check the boundary value and check $x = 0$ **40.**

$$5w - 4 > 2(2w - 3) + w$$

a. Solve (show all work)

b. If there is a solution, graph the solution on the number line:

c. Check the boundary value and check $x = 0$

For #41-42 Fraction buster.... Multiply everything by the denominator.

41. $\frac{3x}{5} - 2 = 7$

42. $\frac{x}{2} + 3 = 18$

43. Check your solution to #42. Substitute your solution in the original equation and determine if it is correct. SHOW ALL WORK. Is it correct? yes_____no_____

44. You are offered two deals by your recording company:

Deal #1: \$1.50 per download, plus a \$15,000 signing bonus.

Deal #2: \$2.00 per download, with no bonus.

For how many downloads would the two deals give you the same income?

45. Minneapolis and St Paul are two cities with a river between them.

Minneapolis has 800,000 people and grows by 20,000 each year.

St Paul has 920,000 people and grows by 12,000 each year.

In how many years will the two cities have the same population?

Round your answer to the nearest tenth of a year.