Name: _____ Date: _____

Summer 2018 Essentials I Packet

The goal of summer math is to ensure that students are prepared for their high school math classes. The skills learned in Algebra I and Geometry are an integral part of success at the high school level, and this packet covers many of the important concepts that students should have mastered.

All students entering Essentials I must complete this math packet over the summer. It is due **Friday, August 31, 2018**. Students who submit their packets on the first day of school will earn extra credit. Packets will **not** be accepted late.

You will receive **two grades** for this packet – one grade for completion (all work must be shown) and another grade for a summative assessment on the material. **Be sure to show all work** to complete the problems.

In your Essentials I class, you will not be using a calculator regularly. Therefore, there is **NO CALCULATOR USE ALLOWED ON THE SUMMER PACKET**. Additionally, all students will be taking a pretest the first day of school on the information covered in this math packet, and students will not be allowed to use a calculator on the pretest either.

For more practice on these skills, use the following internet sources:

www.purplemath.com
www.khanacademy.com

If you lose your packet, there is a copy on the website http://npsd.k12.ri.us/nphs/ under "Academics".

Good luck and have a great summer!

Name _____ **Date** _____

Essentials I Summer Packet **Period** _____

Hint: add like terms

Simplify each expression.

1) $-6k + 7k$

2) $12r - 8 - 12$

3) $n - 10 + 9n - 3$

4) $-4x - 10x$

5) $-r - 10r$

6) $-2x + 11 + 6x$

Hint: Use distribution

Simplify each expression.

1) $-6(a + 8)$

2) $4(1 + 9x)$

3) $6(-5n + 7)$

4) $(9m + 10) \cdot 2$

5) $(-4 - 3n) \cdot -8$

6) $8(-b - 4)$

Hint: Isolate the variable

Solve each equation.

1) $-20 = -4x - 6x$

2) $6 = 1 - 2n + 5$

3) $8x - 2 = -9 + 7x$

4) $a + 5 = -5a + 5$

5) $4m - 4 = 4m$

6) $p - 1 = 5p + 3p - 8$

Hint: what goes into each term?

Factor the common factor out of each expression.

1) $-32 + 8n$

2) $56b^2 + 48$

3) $25x^4 + 15x^3$

4) $10v^5 - 30v^4$

5) $n^4 - 2n^3 - 9n^2$

6) $-72x^2 + 80x + 48$

Hint: Use either sum product method, grouping, or quadratic formula

Factor each completely.

1) $b^2 + 8b + 7$

2) $n^2 - 11n + 10$

3) $m^2 + m - 90$

4) $n^2 + 4n - 12$

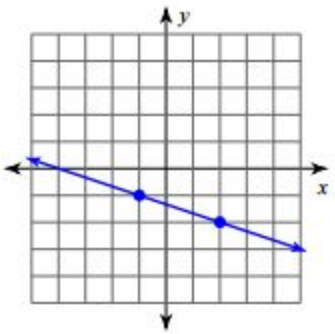
5) $n^2 - 10n + 9$

6) $b^2 + 16b + 64$

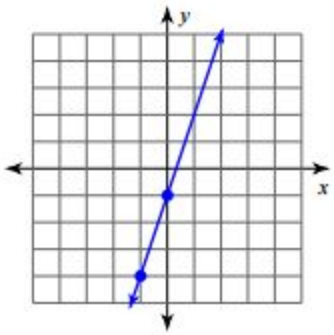
Hint: "rise over run"

Find the slope of each line.

1)



2)



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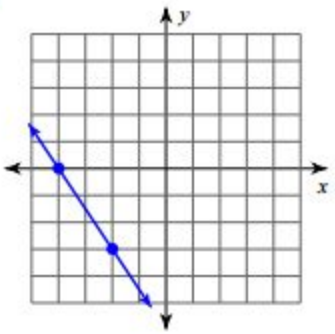

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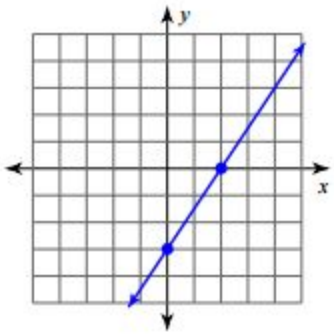
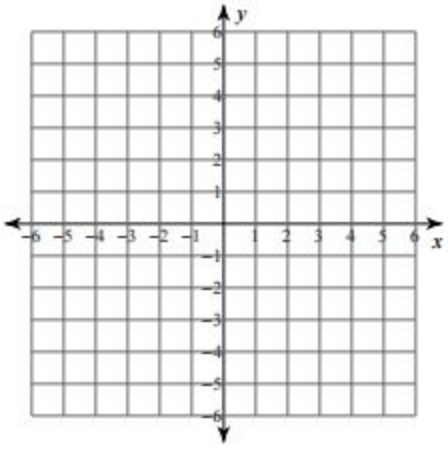
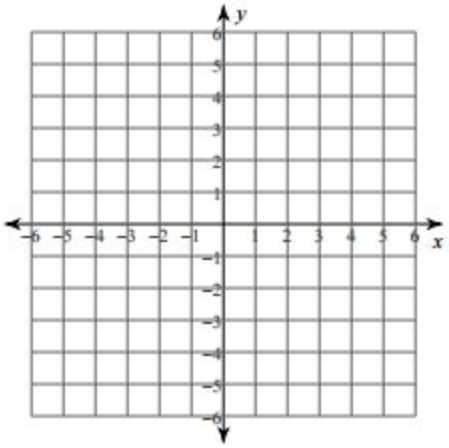


Sketch the graph of each line.

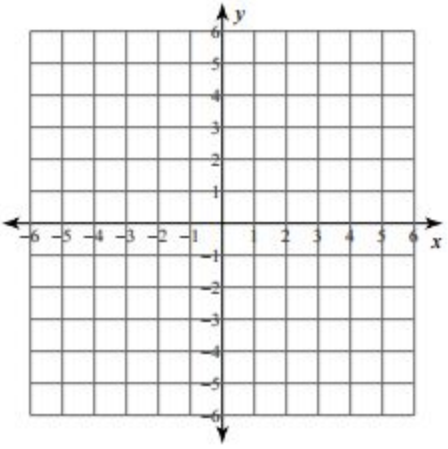
1) $y = \frac{7}{2}x - 2$



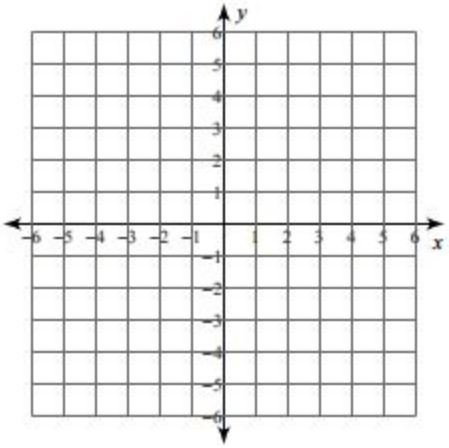
2) $y = -6x + 3$



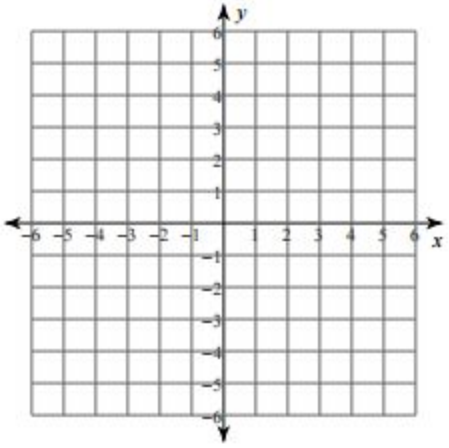
3) $y = -5$



4) $y = \frac{6}{5}x + 1$



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



6) $x = 5$