

Summer Packet 2019-2020

Geometry (All levels)

The purpose of this summer work is to help prepare you for your upcoming math class. The work will tap into your prior knowledge and review past content, concepts, and skills. Our expectation is that you arrive on the first day of school able to demonstrate mastery of the material in this packet. In order to achieve this, please allow yourself plenty of time to work on the problems, use your resources (such as Khan Academy, or the math faculty here at the school during the summer to specifically help with the summer work (July 15 through August 15, Tuesdays and Wednesdays 8:30 – 10:30 by appointment), and work each problem to completion.

Complete the following packet for the summer work. Please make sure all answers are on the answer sheet provided. In order to receive full credit the answers **MUST** be on the answer sheet. This work will be due on **Thursday, September 5th and Friday, September 6th**, and will be 3% of your first quarter grade. 10% will be deducted for each day it is late. Summer work **will not be accepted after Sept. 12th**. Each math problem in the packet will be graded as follows:

Grading: For every section there needs to be five correct answers to receive full credit. Two points per problem. CCP will be out of 60 points while ACC will be 80 points. No partial credit will be given.

Topics Included in the summer packet.

- Pythagorean Theorem
- Combine Like Terms
- Two-Step Equations
- Proportions
- Graphing Linear Equations
- Converting Linear Equations
- *ACC ONLY-Simplifying Radicals*
- *ACC ONLY-Parallel and Perpendicular Lines*

A note from your Geometry teacher:

This packet will help you to sharpen your skills and be ready for the first day of the 2019-2020 school year. If you are struggling with any topics or need a reminder of how to solve any of the problems, Khan Academy is a great resource! These problems should not take too long. **HAVE A GREAT SUMMER!!!!**

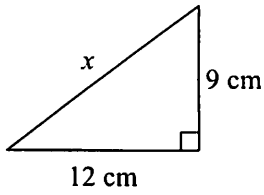
Summer Work

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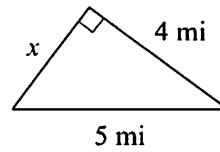
PYTHAGOREAN THEOREM

Find the missing side of each triangle. Round to the nearest tenth if necessary.

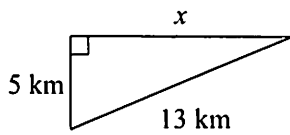
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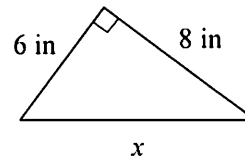
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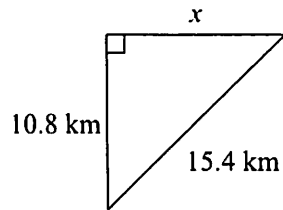
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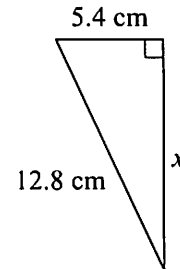
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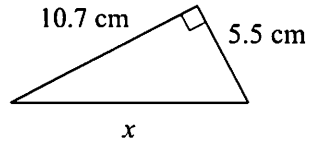
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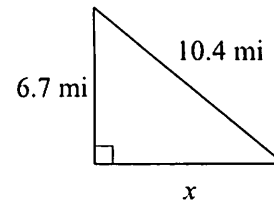
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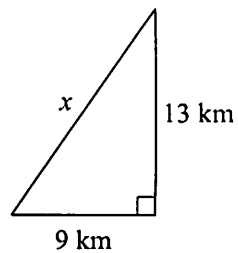


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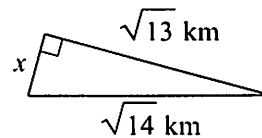


Find the missing side of each triangle. Leave your answers in simplest radical form.

9)



10)



COMBINE LIKE TERMS**Simplify each expression.**

1) $4r - 9r$

2) $7 + 3v + 10 - 3v$

3) $7(1 - 6x)$

4) $10(5 - 6n)$

5) $2(1 + 8m)$

6) $-6(1 - 5x)$

7) $3(1 + 10x) + 4$

8) $-7 - 8(9 - 4k)$

9) $x + 7(7x - 3)$

10) $-5(1 + k) + 4$

TWO-STEP EQUATIONS

Solve each equation.

11) $7(x - 6) = -84$

12) $\frac{n}{2} - 10 = -17$

13) $22 = -2n + 2$

14) $-5v - 2 = -37$

15) $\frac{x+2}{7} = -2$

16) $12 = 10 + \frac{a}{4}$

17) $142 = -8x + 6$

18) $\frac{v+5}{5} = 2$

19) $-8 = \frac{m}{4} - 4$

20) $-1 = \frac{-3+k}{8}$

PROPORTIONS

Solve each proportion.

$$21) \frac{2}{6} = \frac{5}{x}$$

$$22) \frac{p}{10} = \frac{2}{4}$$

$$23) \frac{7}{x} = \frac{10}{8}$$

$$24) \frac{x}{5} = \frac{6}{7}$$

$$25) \frac{8}{3} = \frac{6}{k+3}$$

$$26) \frac{4}{5} = \frac{v-10}{2}$$

$$27) \frac{10}{2} = \frac{7}{p-2}$$

$$28) \frac{4}{8} = \frac{5}{k-5}$$

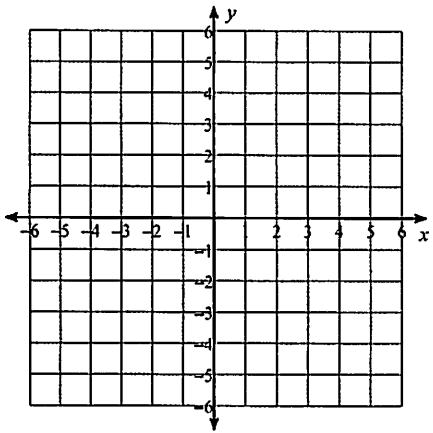
$$29) \frac{7}{2} = \frac{x}{x+7}$$

$$30) \frac{6}{x} = \frac{10}{x-8}$$

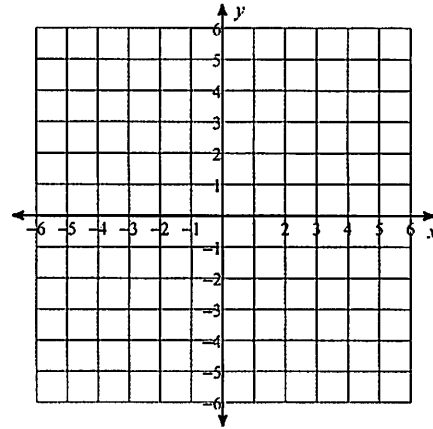
GRAPHING LINEAR EQUATIONS

Sketch the graph of each line.

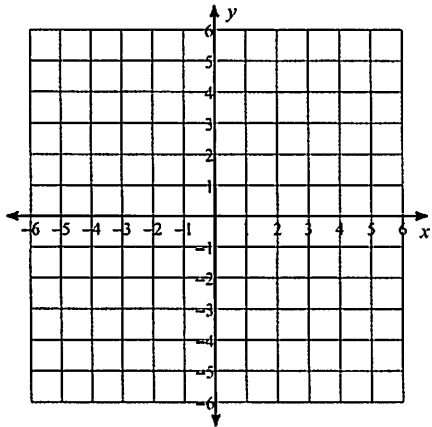
31) $y = -7x + 5$



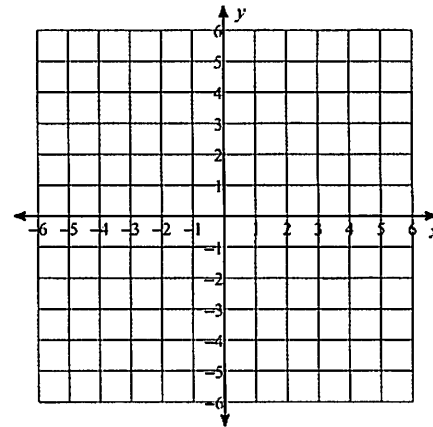
32) $y = -\frac{5}{2}x + 3$



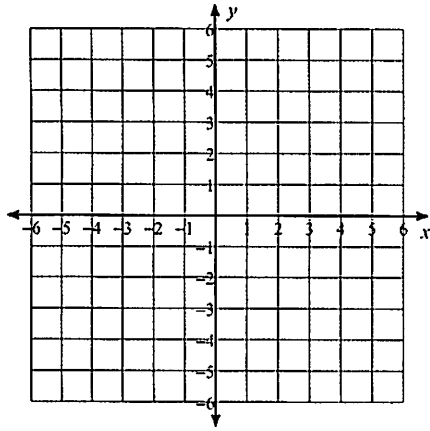
33) $y = -x + 1$



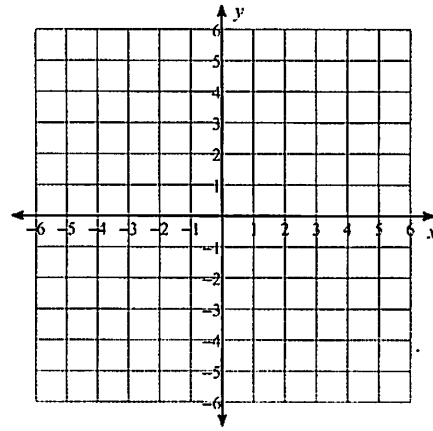
34) $y = -x - 3$



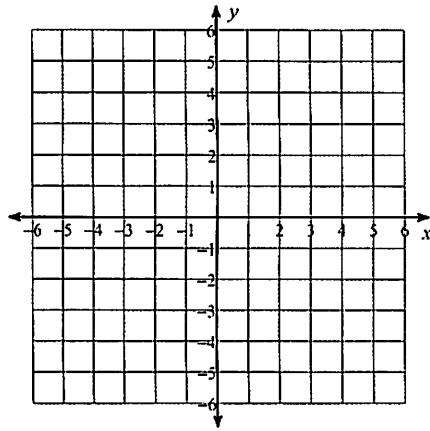
35) $y = -5x - 5$



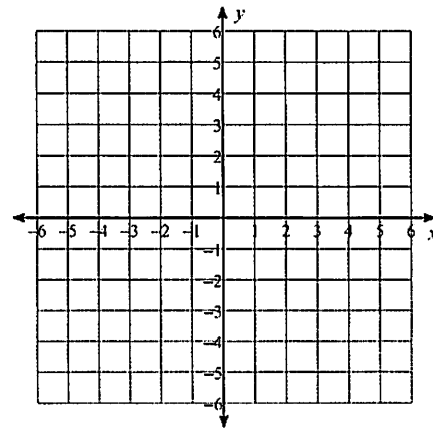
36) $x + y = -5$



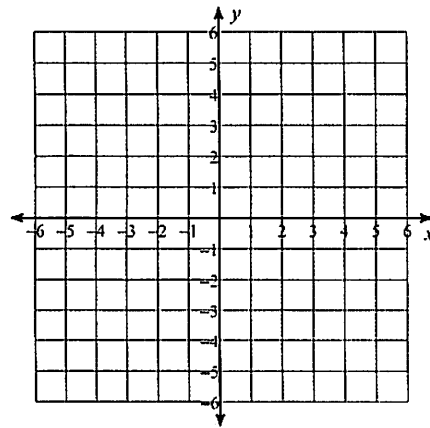
37) $x - y = -4$



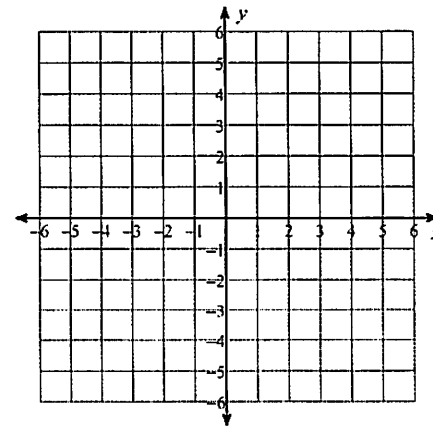
38) $y = 4$



39) x -intercept = -4 , y -intercept = 1



40) x -intercept = 2 , y -intercept = -4



CONVERTING LINEAR EQUATIONS

Write the slope-intercept form of the equation of each line.

41) $10x + y = 3$

42) $x + 5y = 0$

43) $15x + 8y = 56$

44) $3x - 4y = 0$

45) $2x + 13y = 10$

46) $x + 5y = -8$

47) $y + 1 = 2(x - 2)$

48) $y - 4 = -\frac{1}{2}(x + 4)$

49) $0 = x + 1$

50) $y - 5 = -\frac{6}{5}(x + 5)$

SIMPLIFYING RADICALS

****!ACC ONLY!****

Write each problem in simplest radical form.

51) $\sqrt{63x}$

52) $\sqrt{125n^2}$

53) $\sqrt{2} \cdot \sqrt{2}$

54) $\sqrt{5} \cdot -2\sqrt{5}$

55) $\sqrt{6} \cdot -4\sqrt{6}$

56) $5\sqrt{12} \cdot -\sqrt{5}$

57) $\frac{3\sqrt{12}}{\sqrt{15}}$

58) $\frac{\sqrt{4}}{\sqrt{5}}$

59) $\frac{3\sqrt{9}}{\sqrt{15}}$

60) $\frac{2\sqrt{2}}{\sqrt{5}}$

PARALLEL AND PERPENDICULAR LINES

****!ACC ONLY!****

Find the slope of the line through each pair of points.

61) $(20, -19), (-18, 4)$

62) $(7, -1), (-6, -18)$

Find the slope of a line parallel to each given line.

63) $x = -4$

64) $y = -\frac{1}{3}x - 1$

65) $y = -x - 1$

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

Find the slope of a line perpendicular to each given line.

67) $y = \frac{7}{4}x - 2$

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

69) $x = -5$

70) $y = -2x + 2$