Palo Verde High School

An International Baccalaureate World School

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Hello Future Geometry Student,

Congratulations on making it through the 2016-2017 school year!

This letter is from the 2017-2018 Geometry teachers. We look forward to working with you next year. ☺ In order to help you succeed in Geometry, we wrote this review packet. We feel it will help prepare you for next year. It is a review packet of Middle School and Algebra 1 concepts.

Today, sign up for Remind.com by texting text **@algtogeo to the number 81010.** You will receive a welcome text from Remind. (If you have trouble with 81010, you can try texting @algtogeo to (702)830-7278.) Throughout the summer, you will receive reminders and answers. **This packet is due the first day of school.** Teachers will be answering questions and collecting it. We will also be testing on it during the first two weeks of the new school year.

We want to see you succeed next year. So, please do the packet yourself. Show your work. Check your answers. Do not copy the work or answers from somewhere else. Copying will not help prepare you for Geometry.

We are looking forward to great year with you next school year ☺ In the meantime, have a great summer...and do your own work! ☺

Palo Verde High School Geometry Teachers

Name:_____

Geometry Preparation

1. Simplify the expression:

$$3\cdot 4^2-\left[24\div(6-4)\right].$$

2. Evaluate the expression $4+2^3\left[x\div 3(x-6)\right]$ when $x=9$.

3. Evaluate the expression $3x-5y+7$ when $x=\frac{4}{3}$ and $y=2$.

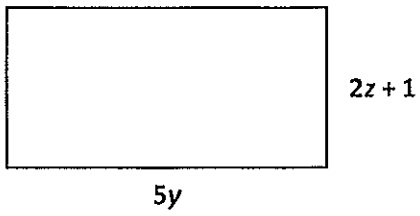
4. Simplify the expression

$$8+5(x+3)-2x.$$

5. Simplify the expression

$$10x^2-8x+20+3x+4x^2-8.$$

6. Write an expression for the perimeter of the rectangle:



7. Let a function be defined as $f(x)=-4x^2+x-3$. What is $f(1)$?

8. Write an algebraic equation for the sentence where y represents Karla's age and x represents the age of her cousin.

   Karla's age is 5 years older than twice the age of her cousin.

9. Solve the equation for x:

$$2x-6+3x=14.$$

10. Solve the equation $4(3x-4)+2=-2(-6x+1)$ for x.

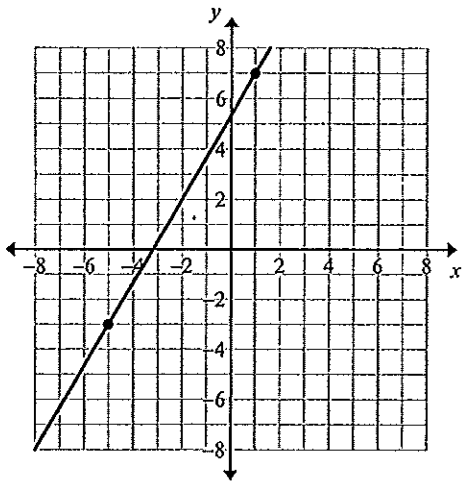
11. Solve the equation for x:

$$5(x-2)+4(3+x)=20$$

12. Solve the following inequality for x:

$$\frac{1}{2}(12x-4)>14-10x$$

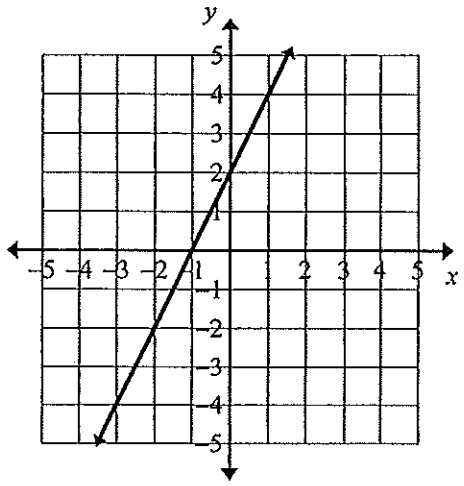
13. Find the slope of the line in the graph.



14. What is the slope of the line that passes through the points (4, 6) and (–4, 9)?

15. What are the intercepts of the graph of the equation $5x + 4y = 12$?

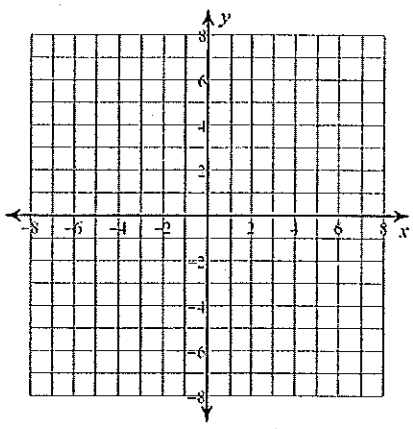
16. Use the graph below.



What is the equation of the line in the graph?

17. What is the equation of the line that passes through $(3,-8)$ and $(-6, 4)$?

18. Graph the linear equation: $6x + 2y = 12$



19. Write an equation of a line parallel to the line

$y = 4x - 5$?

20. Write an equation of a line perpendicular to $y = -\frac{2}{5}x - \frac{1}{3}$?

21. How many solutions does the equation $-3x + 5x + 5 = -7x - (-9x - 5)$ have?

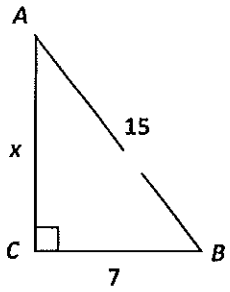
22. What is the x-coordinate of the point of intersection for the two lines below?

$x - 2y = -2$

$y = -6x + 40$

23. Which is a good approximation $\sqrt{85}$ (without a calculator)?

24. Solve for x in right triangle ABC.



25. Simplify the radical $\sqrt{108}$.

26. Simplify

$$\frac{\sqrt{9}}{\sqrt{15}}$$

27. Simplify the product $\sqrt{18} \cdot \sqrt{3}$.

28. Multiply the binomials:

$$(4x - 5)(3x + 2)$$

29. Expand the expression: $(2x - 7)^2$

30. Factor $3x^2+16x-12$?

31. Find the solutions of $5x^2-7x+11=0$ using the quadratic formula?

32. What is the solution set for the equation below?

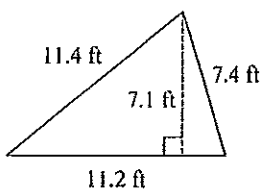
$$x^2-6x+9=16$$

33. The midpoint of $\overline{AB}$ is $(-2,-1)$. If A is the point $(3,1)$, what are the coordinates of point B?

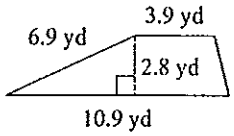
34. Find distance between point $E(5,2)$ and point $F(3,6)$?

35. Find the midpoint of $\overline{AB}$ if $A(-3,2)$ and $B(4,-4)$?

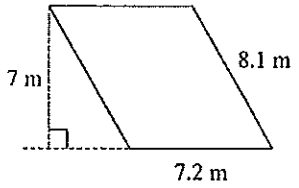
36. Find the area of the triangle below



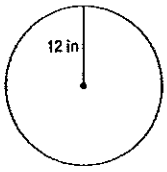
37. Find the area of the trapezoid below



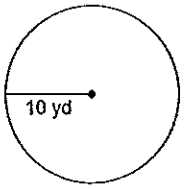
38. Find the area of the parallelogram below



39. Find the area of the circle.



40. Find the circumference of the circle.



41. A rectangular patio has a length $f(x)$ feet and width $g(x)$ feet, where

$$f(x)=3x+1 \text{ and } g(x)=x+2.$$

(A) The patio's perimeter is 54 feet. What is the value of x?

(B) What is the area of the patio?

42. Justify each step used to solve the algebraic equation $4-10x=5x+2(3x-5)$.