

Roberto Clemente Middle School



For Students Entering
Honors Geometry

Name: _____

Honors Geometry Summer Review Assignment

Students,

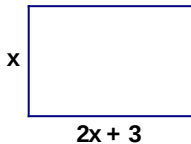
This assignment should serve as a review of Algebra & Geometry skills necessary for success in Honors Geometry. These skills were taught in previous math courses. Our hope is that this review will keep your mind mathematically active during the summer, identify weaknesses in Algebra & Geometry, if they exist, and prepare you for the fun & challenging year ahead.

We expect that you come to class knowing this material and ready to continue learning Geometry. **Answer all questions on separate paper.** Round answers to the nearest tenths place when necessary. **SHOW ALL WORK.** This assignment will be *collected* on the first day of school.

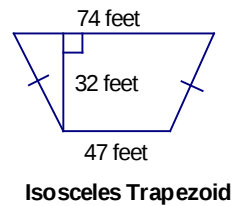
Enjoy your summer.

I. Solve each of the following.

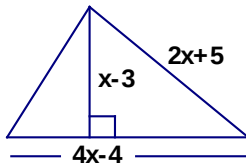
1. Find the length of each side when the perimeter of the rectangle is 72 cm.



2. Find the perimeter & area of the trapezoid.



3. The area of the triangle is $(4x^2 + 10) \text{ cm}^2$. Solve for x . Find the answer to the nearest cm.



4. In a circle, the radius = $(x + 2) \text{ cm}$. Find x . Find the **Area**, the **Circumference** & the **diameter** of the circle in terms of x . (Do NOT substitute a number for π .)

5. The Circumference of a circle is $6\pi \text{ m}$. Find the radius and the Area of the circle in terms of π . (Do NOT substitute a number for π .)

6. Find the Area of a rhombus if its base has a measure of $x - 9$ and its height is $x + 7$.

7. Find the Area of a triangle if its base has a measure of $2x + 16$ and its height is $x + 4$.

8. Find the Area of a square if each side has a measure of $x - 8$.

9. Find the measure, in terms of x , of each side of a square if the Area = $x^2 - 16x + 64$.

II. Factor Completely

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|---------------------|-----------------------------|--------------------------|----------------------|
| 1. $x^2 + 11x + 24$ | 2. $x^2 - 4x + 3$ | 3. $2x^2 + 10x + 84$ | 4. $x^2 - 7x - 18$ |
| 5. $2x^2 + 10x + 8$ | 6. $3x^2 - 6x - 24$ | 7. $-x^2 - 3x + 54$ | 8. $-x^3 + x^2 + 2x$ |
| 9. $2x^2 + 5x + 3$ | 10. $2x^2 - 9x - 5$ | 11. $3x^2 + 5x - 2$ | 12. $5x^2 - 13x - 6$ |
| 13. $x^2 - 16$ | 14. $8x^2 + 10x + 12x + 15$ | 15. $3x + 7 + 6xy + 14y$ | |

III. Factor and solve.

- | | | | |
|-----------------------|------------------------|------------------------|--------------------------|
| 1. $x^2 - x - 72 = 0$ | 2. $2x^2 + 9x - 5 = 0$ | 3. $x^2 - 64 = 0$ | 4. $4x^2 - 36x + 72 = 0$ |
| 5. $3x - 9 = 0$ | 6. $x^2 - 25 = 0$ | 7. $4x^2 + 4x + 1 = 0$ | |

IV. Solve each of the following.

- | | | | |
|----|---|---------------------------|---------------------|
| 1. | 2. $\frac{x-6}{5+25} = \frac{12}{2x-7}$ | 3. $\frac{2}{3}x + 4 = 6$ | 4. $2(x+1) - 3 = 4$ |
|----|---|---------------------------|---------------------|

V. Find the slope of a line that passes through the given points:

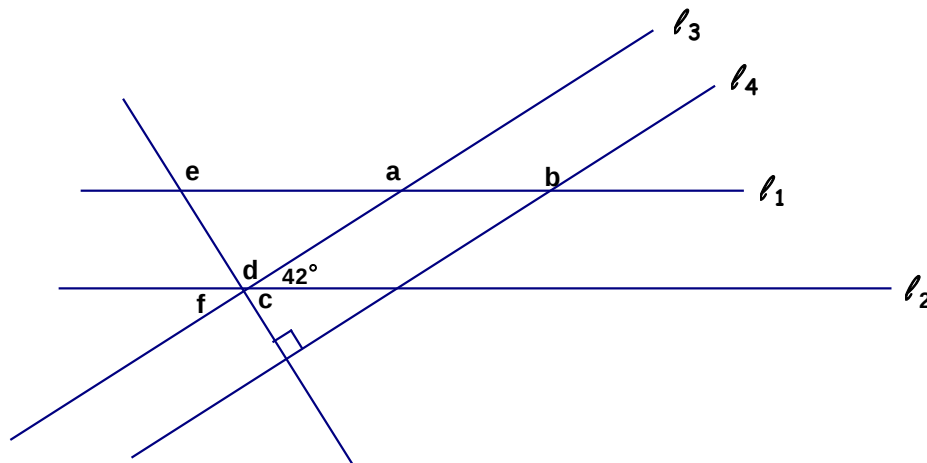
- a) (2, 3), (4, 6) b) (-3, 2), (5, 2) c) (-4, 5), (0, 1)

VI. Complete the following.

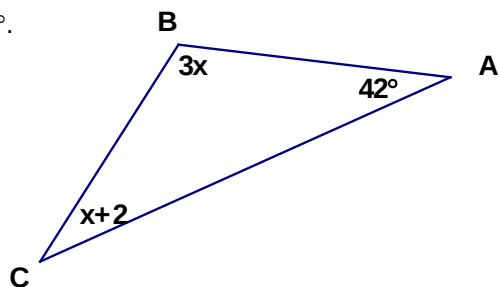
- a) Write the equation of a line with a slope of 0 and a y-intercept of (0, 12). b) Sketch the line.
 - a) Write the equation of a line that contains points A(-2, 3) and B(-6, -5). b) Sketch the line.
 - a) Write the equation of a line with a slope of -3 and a y-intercept of (0, 5). b) Sketch the line.
4. Find the measures of two supplementary angles if one is five times the measure of the other angle.
5. Find the measures of two complementary angles when one is 24° less than twice the other.

VII. Given $\ell_1 \parallel \ell_2$ and $\ell_3 \parallel \ell_4$, find the measure of each of the following.

a = _____ b = _____ c = _____ d = _____ e = _____ f = _____

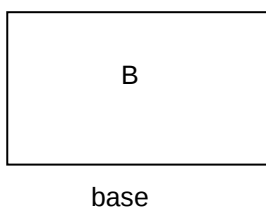
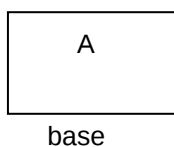


VIII. Find the measure of $\angle C$ if the measure of $\angle A$ is 42° .

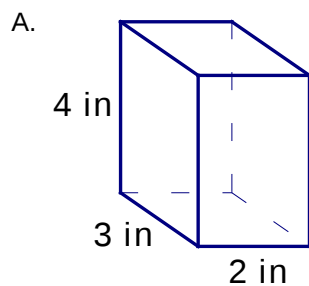


IX. Use a proportion to solve.

The ratio of the length of the base of Rectangle A to the length of the base of Rectangle B is 2:3. The area of Rectangle A is 400 cm^2 . Find the area of Rectangle B.



X. Find the surface area and volume of the following rectangular prisms



B. Answer will be in terms of x.

