HOUSTON HIGH SCHOOL

2026-2027 Pre-Term Work

Course Name	**Geometry Honors**
Teacher Name and Contact Email	**Sabeen Khawaja** **sabeen.khawaja@gmsdk12.org**
Pre-Term Work Assignment Description	**The Geometry pre-term work includes all the concepts students need to understand before starting the Geometry course.**
Purpose of Pre-Term Assignment	**The purpose of this assignment is to help incoming students transition smoothly into this course and build a strong foundation for understanding new Geometry concepts.**
Assignment Due Date	**Students should complete this assignment by the first day of the school year.**
How will this assignment be submitted to the teacher?	**Students will submit a hard copy to the teacher.**
How will this assignment work be assessed (include rubric, if applicable)?	**It will be assessed on accuracy.**
Additional Resources:	

Geometry Honors

Pre-Term Work

Houston High School

Name: _____

Previous school: _____

Algebra I teacher: _____

Algebra I (check one): □ Honors □ Standard

Algebra I grade: _____

This packet should be printed and completed by the first day of school and will be graded for completion. You should be prepared for an assessment over these topics in the first week of school. As an honors student, you are expected to take this seriously and show all work leading to your answer. The best practice would be to work on the packet throughout the summer—don't do the entire packet at the beginning of summer, and don't wait until the end of summer.

Evaluating & Solving Equations

Evaluate each expression if $a = -2$, $b = 7$, $c = 10$, and $d = 14$.

1. $a^2 - b^3$

2. $\dfrac{4(b^2 + \frac{a}{2})}{2c} + a$

3. $\dfrac{(c-d)^2}{\sqrt{a^2}}$

A formula or equation that involves several variables is called a literal equation. Solve for the variable indicated.

4. Area of a circle: If $A = 88$ ft^2, find r to the nearest foot.
   $A = \pi r^2$

5. Volume of cube: If $V = 125$ m^3, find e.
   $V = e^3$

6. Area of equilateral $\triangle$: If $A = 9\sqrt{3}$ cm^2, find s.
   $A = \dfrac{s^2\sqrt{3}}{4}$

Solve for the variable. Show all steps. Give answers in simplified fraction form if necessary.

7. $-2 = a - 10$

8. $-9x = 36$

9. $\dfrac{t}{9} = 10$

10. $15a = 12$

11. $-7a + 28 = 7$

12. $0.6a + 9 = 14.4$

13. $(2^4 - 3 \bullet 5)(q) + 13 = (2 \bullet 9 - 4^2)(q) + (\dfrac{(3)(4)}{12} - 1)$

14. $\dfrac{1}{8}(3d - 2) = \dfrac{1}{4}(d + 5)$

Solve for the variable. Round to the tenth if necessary.

15. $9 = \dfrac{-6p - (-3)}{-8}$

16. $\dfrac{4x + 7}{15} = \dfrac{6x + 2}{10}$

17. $\dfrac{x}{x + 4} = \dfrac{x - 9}{x + 1}$

Solving Quadratics

Solve each equation by factoring. Express answers in simplified fraction form if necessary.

18. $x^2 + 13x + 36 = 0$

19. $y^2 + 10y + 24 = 0$

20. $b^2 - 8b - 33 = 0$

21. $2t^2 + 7t - 15 = 0$

22. $3r^2 - 15 = 4r$

23. $2x^2 + 13x = 24$

Solve each by factoring or the quadratic formula. Express answers in simplified fraction form if necessary.

24. $y^2 - 64 = 0$

25. $12m^2 + 3 = -20m$

26. $6x^2 + 5 = -17x$

27. $5b^3 + 34b^2 = 7b$	28. $4b^2 - 36b = 0$	29. $\frac{1}{12}x^2 - \frac{2}{3}x - 4 = 0$
30. $\frac{x-2}{x-5} = \frac{2x+1}{x-1}$	31. $\frac{x(x+5)}{4x+4} = \frac{9}{5}$	32. $\frac{x-1}{x+2} = \frac{10}{3x-2}$
Multiplying Binomials		
Find each product and express as a trinomial.		
33. $(x+8)(x+2)$	34. $(y+4)(y-8)$	35. $(2w-6)(w+7)$
36. $(4x-5)(3x+2)$	37. $(5a+2)(3a-4)$	38. $(2y-5)(y-6)$

Line Equations

Write the equation of the line with the given information. Write the equation in standard form (Ax + By = C).

39. m = -2 and passes through (-1, -3)

40. m = ¼ and passes thru (8, 5)

41. m = 10 and passes through (0, 10)

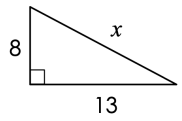
42. passes through (-3, 3) & (4, 10)

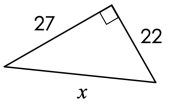
43. passes through (-8, 7) & (-3, 7)

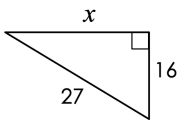
44. passes through (4, 9) & (4, -15)

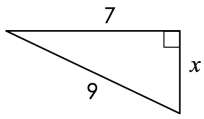
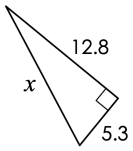
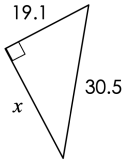
Pythagorean Theorem

Use the Pythagorean theorem ($a^2 + b^2 = c^2$) to find each missing side length. Give answers as <u>simplified</u> square roots (except #48 & #49— those answers may be left as decimals).

45. 

46. 

47. 

48. 	49. 	50. 
Simplifying Radicals		
Simplify the following radicals. NO DECIMALS. Show all work.		
51. $\sqrt{169}$	52. $\frac{1}{3}\sqrt{36}$	53. $\frac{\sqrt{81}}{\sqrt{49}}$
54. $\sqrt{75}$	55. $(2\sqrt{3})(7\sqrt{5})$	56. $(3\sqrt{3})(5\sqrt{4})$
57. $\sqrt{162}$	58. $\sqrt{700}$	59. $\frac{\sqrt{48}}{\sqrt{12}}$