

Welcome to Geometry

Geometry requires students to think, reason, and communicate mathematically. The skills learned during the Algebra 1 curriculum will be used as a foundation in all the lessons of Geometry.

Directions:

- The summer packet contains material learned during the Algebra 1 curriculum. Because these lessons are prerequisites for Geometry then I expect students to get a master on them. Geometry curriculum does not include these lessons.
- Students will find videos to help them to refresh the lessons from the summer packet.
- Students **MUST** show their work for each problem of this review packet. Each problem should be worked through to its entirety, and correctly; not just attempted.
- The packet will be student's the first grade for the new school year.
- Each student should be prepared to have the summer packet completed and ready to check during the first week of school.
- Over the course of the first two weeks of the beginning of the school year, the packet will be reviewed, and an assessment will be given as the first test grade of the new school year.
- Do not wait until last minute to do it, remember that you will be tested on these lessons.
- Organize your time wisely. For example, you can do a lesson per week. Then you will have plenty of time to finish before the new school year starts.

Videos related to your Geometry - Summer Packet:

Triangles: <https://www.youtube.com/watch?v=mLeNaZcy-hE>

Complementary and supplementary angles:
<https://www.youtube.com/watch?v=DGKwdHMiQcg&t=358s>

How to solve one and two step equations: <https://www.youtube.com/watch?v=LDliYKYvvdA>

How to solve equations with variables in both sides: <https://www.youtube.com/watch?v=avt1w4Fuk-0>

Probabilities: <https://www.youtube.com/watch?v=KzfWUEJjG18>

Ratios and proportions: <https://www.youtube.com/watch?v=RQ2nYUBVvqI&t=356s>

Slope and linear equations: <https://www.youtube.com/watch?v=qXX47hS2KLw>

Pythagorean Theorem: <https://www.youtube.com/watch?v=WqhlG3Vakw8>

Show work in the spaces provided. (NO CALCULATOR) ALLOWED) Part I: Vocabulary


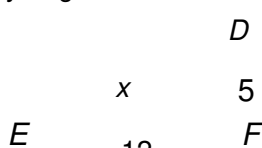
Match the definition with a word from the word bank.

Symmetry	Rotation	Scalene	Obtuse
Acute	Isosceles	Translation	Equilateral
Supplementary	Area	Complementary	Reflection
Perimeter	Right	Volume	Angle
Dilation	Pythagorean Theorem		

1. _____ The number of square units enclosed by a plane figure.
2. _____ An angle whose measure is more than 90°, but less than 180°.
3. _____ A formula used to find the missing side of a right triangle.
4. _____ A transformation about a point. (turn)
5. _____ The distance around a polygon.
6. _____ A triangle with no congruent sides or angles.
7. _____ Two angles whose sum is 90°.
8. _____ A transformation with a line of symmetry. (flip)
9. _____ A triangle with at least two congruent sides and angles.
10. _____ An angle whose measure is 90°.
11. _____ An isometry that maps the figure onto itself.
12. _____ An angle whose measure is less than 90°.
13. _____ A triangle with three congruent sides and angles.
14. _____ A figure formed by rays with a common vertex.
15. _____ Two angles whose sum is 180°.
16. _____ A transformation that moves points the same distance and in the same Direction. (Slide)
17. _____ The measure of space a figure occupies.
18. _____ A transformation with a center and has a scale factor of $n > 0$, that is a reduction or an enlargement.

Part II: Problem Solving

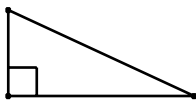
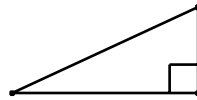
Follow the instructions for each problem. Write your answer in the simplest form in the blank provided.

<p>19. What is the solution to $5x - 14 + 8x = 7x + 28$</p>	<p>20. A bag contains 5 blue marbles, 6 red marbles, and 4 green marbles. You select one marble at random from the bag. What is $P(\text{blue})$?</p>
<p>21. You select one red marble from the full bag in Exercise 20. What is the probability that the next marble you select will be green without replacement of the first marble?</p>	<p>22. A map has a scale of 1 inch: 20 miles. If two cities are 240 miles apart, how far apart are they on the map?</p>
<p>23. What is the ratio 0.8: 3.2 written in simplest form ?</p>	<p>24. What is the slope of a line through $(-3, 4)$ and $(5, 6)$?</p>
<p>25. What is the simplest form of $24x^7$</p>	<p>26. What is the solution to $y - 9 > 4 + 2y$</p>
<p>27. What is the value of the expression $-x(y - 3)^2$ for $x = -2, y = 6$</p>	<p>28. What is the area of $\triangle ABC$, to the nearest tenth?</p> 
<p>29. A painter leans a ladder against the side of a house that is 3 feet from the base. If the top of the ladder reaches 16 feet, how long is the ladder?</p>	<p>30. What is the solution to $8 = 12$</p>
<p>31. What is the solution to $8 + 4$</p>	<p>32. What is the value of x for $\triangle DEF$? Hint: apply Pythagorean theorem</p> 

33. Simplify: $a^2 \cdot a^4$	34. Simplify: $\frac{a^5 b^8}{a^4 b^{10}}$
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Part II: Problem Solving page 3

Follow the instructions for each problem. Write your answer in the simplest form in the blank provided.

35. What is the equation of the line that is parallel to $y = 4x + 3$ and passes through the point (2, 6)?	36. What is the solution to $x + 3 = -6$
37. What is the slope of the equation? -3 $y = 4x + 2$	38. What is the solution to $2(x - 6) = 14$
39. Simplify: $-13 + 12 \div (-4) + 2$	40. Simplify: $8(2x - 2)$
41. What is the simplest form of 20	42. Simplify: $7x - 3 + 4y - 8 + 5x - 6y$ 
43. What is the value of x in the triangle below? 75° 64° x°	44. What is the solution to $-2y + 8 \leq 20$ - -
45. Simplify the algebraic expression below: $15 + 5(2x - 3)$ - -	46. What is the perimeter of a rectangle with length 20 in. and width 12 in.? 
47. What is the value of x below? 48° x°	48. Simplify the algebraic expression below: $(2x^2 - 4x + 6) - (3x^2 + 5x - 9)$

49. What is 50% written as a fraction in lowest terms?

50. What is 25% of 20 ?

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