

10 Days of Geometry/Algebra 2/Math Concepts

NTI work for Mrs. Sipes

This packet gives one assignment for each day. (Work on a **separate sheet of notebook paper** and label each day as "day 1" or "day 2," etc....) Some of it will be a review, depending on how much we have covered in math by the time you are given this packet. However, you are to use your resources to find the answers: the internet, people around you, even message me if you need to. When I say to explain in words, **I want complete sentences**. This is ALL you are doing for math each day so act like you are doing high school level work and explain it thoroughly. :) These questions were selected because these concepts and formulas often show up on the SAT.

Day 1	Think slope-intercept form of an equation for a line. Using $y = 5x - 7$, explain to me in words how you would graph this line just by looking at this equation. Then sketch a coordinate plane with the equation of this line on it.
Day 2	Write an explanation for a "new" math student on how to use the distance formula to find the length of a line segment on the coordinate plane. Explain it and give an example with good detail.
Day 3	Write an explanation for a math student on how to use the midpoint formula. Explain it and give an example, showing how to find the midpoint of a line segment on a coordinate plane.
Day 4	Use your online resources to define and give an example for the following terms: rational number, irrational number, real number, and imaginary number.
Day 5	Explain two ways to get an answer for square root of 50...(hint: find a video on YouTube to refresh your memory on "simplifying radicals" if you need help). One answer should be in decimal form and the other should be a simplified radical. Be sure to explain in words how to find both answers.
Day 6	Write down the area formulas for a circle, a triangle, a rectangle, a square, and a trapezoid. Tell me in words what each means; for example, to find the area of a parallelogram, use the formula $A=bh$, which means you multiply the base times the height.

Day 7	$(3x - 5)(2x + 6)$ Using these two sets of parentheses, talk me through how you would expand them using FOIL (expand—multiply them) or distributive property. Use words to explain the process then show by demonstrating how to get the expanded answer.
Day 8	Walk me through your steps for solving this equation for “x”: $2(3x - 7) + 4(3x + 2) = 6(5x + 9) + 3$. I want words explaining what you are doing. You can solve it step by step first and then write it out in words next to each step to explain what you did. Use words/phrases like “distribute,” “combine like terms,” “use addition property to move ____ to the other side,” etc...
Day 9	Compare and contrast the following terms: <u>line</u> , <u>line segment</u> , <u>ray</u> , and <u>opposite rays</u> . (Be sure to draw an example of each and tell how they are similar and how they are different.)
Day 10	Look up the formula for finding the surface area of a cylinder. Write it down. Now look at what you found about areas of shapes for day 6 and decide which shapes are we looking at that make up the surface area of the cylinder? Explain why this works?