

ACT MATH STRATEGY SESSION ANSWERS

Math Section Overview

- The math section is 60 minutes long and consists of 60 questions.
- Questions range from arithmetic to trig.

Subject	# of questions	% of test
Pre-Algebra	14	23%
Elementary Algebra	10	17%
Intermediate Algebra	9	15%
Coordinate Geometry	9	15%
Plane Geometry	14	23%
Trigonometry	4	7%

- There are 5 answer choices instead of 4.
- Questions are ordered by difficulty with the hardest questions being at the end.
- You can and should use a calculator.

Improving Your Math Score

- Your mindset is the most important part of improving in math. If you look at the test as a puzzle you can learn to beat, you'll get better. If you just think you're not good at math, you won't.
- You must learn how to do the problems you miss.
- You must learn how to do the problems you get right by guessing.
- You must learn how to do problems faster that take you a long time.
- The easiest way to improve your score is to stop making mistakes on questions that you already know how to do.
 - Write out your algebra to keep track of your negative signs.
- Pay attention to the types of questions you miss regularly and learn how to do them.

Big Picture Strategy

- You have 1 minute per question, but you should spend less time on the early questions to have more time for the harder questions near the end of the test.
- Many questions have a simple solution if you take the time to find it, especially questions towards the end of the test. Ask yourself, "What's the trick?" and try to find the big deductions that make the problem easy.
 - "If this is true, what else must be true?"
- POD - Mark the letter of the day on questions you can't see any way to attack after 20 seconds, circle them on the test test, and come back after you finish.
- POE - Eliminate answers that can't possibly be right.
 - Answers that are negative when the answer must be positive, or vice versa.
 - Figure out if an answer has to be even, odd, a multiple of 5 or 10, etc. and eliminate.
 - Eliminate answers that are too high or too low to be right.

- Ballpark - round numbers to values that are easier to use to find answers or eliminate wrong answers.

Word Problem Strategy

- Read the last sentence to find out what the question actually wants.
- Read the rest of the question and pull out the information you need.
 - The test is full of “red herrings” - extra information designed to lead you away from the answer. Ignore them.
- Break up the problem. Attack it in small parts.

Algebra Strategy

- Most of the time, it is fastest to do algebra problems algebraically. If you can't work a problem algebraically, you have some options.
 - Plug In The Answers: when there is a variable in the question, substitute the answers for the variable and see if it works.
 - Normally, start with the middle answer. use it to see if you should pick a smaller or larger answer.
 - If the question asks for the least, start with the smallest answer. If the question asks for the most, start with the largest answer.
 - Plug In A Number: when there is a variable in the question **and** the answers, substitute a random number in both. See where it works. See which gives the same result in both the question and answer..
 - Good numbers to use are 2, 5, 10, and 100.
 - Don't use 0 or 1. They usually work for multiple answers.
 - You need to try your number on all the answers to be sure. Once you find the right answer, doing the math in your head usually works.

Review

- 1) What is the easiest way to improve your score? stop making mistakes on questions you know
- 2) What should you ask yourself when you don't know how to start a problem? “What's the trick?”
- 3) What is your first step in a word problem? read the last sentence
- 4) What should you do when you don't know how to do an algebra problem? plug in answer/number

Geometry

- Draw: if you don't get a picture, make one.
- Proportions are your friend.
 - part/whole = part/whole
- Use the Pythagorean Theorem to find distances
- Origami: cut shapes you can't work with into shapes that you can
- Remember your line rules

Time is running out!

- At the 5 minute mark, lightly bubble LOTD for the rest of the questions.
- Only do the easy questions for the remainder of the time.