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908-369-5362

ACT Strategy Guide

ACT Preparation

The ACT is an increasingly popular standardized test for high school students. Although for many years the majority of college applicants on both the east and west coasts, and in Texas, favored the SAT, many of these students are now taking the ACT. Students are making the most of the fact that almost every college in the country is willing to accept either the SAT or the ACT as a criteria for college admissions.

It's important to note that the ACT and the SAT are administered by completely different organizations. This is a benefit to students, who can take both exams and then simply submit the scores from their "best" test. Colleges will never know that the other test was ever taken!

Pointers

Many students find the ACT to be an extremely fast-paced test as they are only allotted 20-30 seconds per question in some sections. It's important for students to note that the questions on the ACT do *not* get harder as the test goes on (with the exception of the math questions). This means that students should

spend roughly the same amount of time per question on the ACT. The most important strategy is to keep moving! The ACT is fast-paced and students should avoid getting stuck on any one particular question. When unsure, students should circle the question number in their test booklet, and then make an educated guess. If they have time remaining when they have completed the section, they can go back to the circled questions and re-consider their answer choices.

The five sections on the ACT always appear in the same order. The first section is English, the second section is Math, the third section is Reading, and the fourth section is Science, with an abundance of graphs and charts. (There is no Science section on the SAT, which is one of the main differences between the two exams.) Lastly, the fifth section is an optional Essay. Students must indicate, at the time of registration, whether or not they wish to do the essay section. Our recommendation is that all students who take the ACT opt to do the optional essay, as the more competitive colleges require this section.

The ACT is offered six times per year, typically in September, October, December, February, April and June. Students who prepare for the ACT often say that the strategies they are taught, along with the practice with actual ACT material, greatly enhance their time management skills. Many students start out by taking the PLAN, which is the ACT version of the PSAT. However, the PLAN is significantly less important than the PSAT (which also serves as the National Merit Scholarship Qualifying Test) for college scholarship purposes.

It is important on the ACT, as on all tests, to be sure to carefully read and follow directions! Many students overlook words like "not" or "least" and incorrectly answer questions that they would otherwise have found quite easy. Students should also take care not to overestimate, or underestimate, the difficulty of any question. Since the ACT is a test that does not penalize points for incorrect answers, students should always choose an answer for each question – even if it is just a guess.

Scoring

The ACT is scored on a range of 1 to 36 points, with an average score between 20 and 22 points. On the ACT score report, students are given a separate score for English, Mathematics, Reading and Science, as well as a combined English/Writing score when a student completes the optional essay section. A percentile is also reported for each section, comparing a student's score with those of all students in the U.S. who took the identical test. These separate scores are combined into a "Composite Score," which is also accompanied by a percentile. When sending ACT scores to colleges, students can pick and choose which score reports to send but they cannot send portions of different tests. So if a student, for example, gets a higher composite score on the April test than the June test, he/she can request that only the April score report be sent to colleges. A student cannot, however, send the Math and

Science scores from one test and the English and Reading scores from a different test.

English

The 45-minute English section always appears first on the ACT and is comprised of 75 questions. They are integrated into five passages with portions of some sentences underlined. The questions focus on grammatical rules, including the use of commas, apostrophes, modifiers, semi-colons and colons. Rhetorical skills and proper writing style are also tested, with questions on brevity and clarity, transitions, organization and order.

Many students find the ACT writing style questions to be tricky and even a bit subjective. It often requires practice to read the questions carefully and recognize all of the "hints." For example, a question might ask in which order you should place particular sentences. If the story is a biography, you would typically put the sentences in chronological order, starting with the person's birth and following with his/her childhood, adult life and death. Another question might ask a student to choose the answer that provides the most specific description. In this case, one would choose the answer that says "it was 87 degrees that day" rather than "it was a really hot day."

Math

The 60-minute Math section consists of 60 questions and covers algebra, geometry, trigonometry, logical reasoning, and basic data analysis and probability. Most students find the last ten questions to be much more challenging than those that precede them.

Many of the questions seem lengthy, but are actually one or two step algebra or geometry questions. In fact, the writers of the ACT often mask a very easy question by providing a great deal of extraneous information that often intimidates students.

Since the ACT is a very fast-paced test, students need to work quickly but cautiously. Students should read each Math question carefully and use their calculators to insure accuracy. Students should avoid spending too much time on any one question, and should take a good guess and then return to the question in doubt later if time allows. When guessing, students should circle the question number in their test booklet so they can easily identify the questions that warrant a second look.

A downside of the ACT is that a box of mathematical formulas is not provided, as is done on the SAT. So it's worthwhile to memorize the common formulas learned in geometry including area, circumference, perimeter, volume, and the Pythagorean Theorem. Many students also find that they benefit from reviewing trigonometry before taking the ACT. The definitions of sine, cosine, and tangent (SOHCAHTOA) should be sufficient to cover these questions on the test.

Reading

The Reading section runs for 35 minutes and is comprised of four passages, each followed by ten questions. The passages are always in the areas of Prose Fiction, Social Science, Humanities, and Natural Science. Some students like to do the reading passages out of order, first completing the passage in the area of greatest interest and then going back to the others. It's important for students following this strategy to be sure to bubble in the answers in the correct spaces on the answer sheet. We do not recommend this practice, as students ultimately need to read all of the passages and it can be a waste of time to identify preferred passages. Also, bubbling in answers out-of-order can be quite risky. Overall, students should allot themselves about eight to nine minutes per passage. Remember, the ACT is a fast-paced test. So students should not get stuck on any particular question but should take a good guess and move on, returning to any difficult question if time allows.

Students should always remember that they are being asked to answer questions based strictly on the information that appears in the passage. That's why many questions start with phrases like, "It can be inferred from the passage that….." or "According to the passage….." It's important that students not use any prior knowledge to answer these questions, but strictly make choices based on what is explicitly stated or implied in the passages.

Science

The Science section is always the last of the required sections and is 35 minutes long with 40 questions. There are several different "passages" in this section, each with five to seven questions. Some of the passages are called "data representation" and ask students to interpret charts and graphs. Others are called "research summaries" and ask students to decipher how an experiment was conducted. Finally, there are "conflicting viewpoints" or "squabbling scientists" passages, which present differing scientific explanations. For these questions, students are asked to identify the points on which scientists either agree or disagree.

It's important to understand that the science section doesn't measure how much science a person knows. Many students become anxious and think they need to go back and review their notes from chemistry or biology — not true! A student really doesn't need to know any science at all to do well on the science section. In fact, many test-takers successfully skim most of the text and look more directly at the charts and graphs. When doing so, it's important to look carefully at the axes and labels.

Strange as it sounds, many students feel that the science section is very similar to the reading section. Both involve looking at specific lines and finding specific pieces of information. It's just the subject matter that differs.

Because the science section is always the last of the required sections, many students are tired at this point and have a hard time focusing. It's

important for students to be able to keep themselves motivated and energized at this point so as not to ruin their overall ACT composite score by doing poorly at the end.

Essay

The 40-minute essay is optional on the ACT, but it is a good idea for students to do this section because the more competitive colleges accept the ACT only if the essay is included. Therefore, it's wise for students to not limit their options.

The ACT essay presents an issue and offers three different perspectives of the issue. Students are asked to "write a unified, coherent essay" in which they "analyze and evaluate the perspectives given, state and develop their own perspective on the issue, and explain the relationship between their perspective and those given."

Students are given 40 minutes and 4 lined pages on which to write their essay. Students are encouraged to first take a few minutes to carefully consider the prompt and make sure then understand it. Next, students should decide how they want to answer the question in the prompt and jot down a list of ideas, reasons and examples that could be used to support their point of view. Students should "prewrite" on the pages provided a rough outline of the essay they plan to write. Then, when they begin writing their actual essay, students should introduce the topic and explain their viewpoint in a clear and logical

manner. Students should be sure to address all of the perspectives presented in the prompt, and provide support for the perspective with which they agree and refute, often by presenting counter-arguments, the perspectives with which they disagree. Students sure be sure to stay focused and on-topic, and end with a strong conclusion that re-states their position. When finished, students should take a few minutes to proofread their essay, correcting any grammatical, spelling or punctuation errors. Students should be sure to write legibly so graders can easily and quickly read their essay.

A student's essay is scored by two graders, each of whom gives a rating from 1 (low) to 6 (high) for each of four categories: ideas and analysis, development and support, organization, and language use and conventions. These ratings are added together, giving each student a score of 2 to 12 in each of the four separate categories, and then scaled on a range of 1 to 36 (as is each area of the ACT). Students can view practice essay questions in "The Official ACTPrepGuide."

Many students choose to take both the SAT and ACT exam, in order to have the option of picking their best scores to send to colleges. Since both tests are scored quite differently, the chart on the next page will help students compare their SAT and ACT scores and make the best decision regarding which scores should accompany their college applications.

Below are math formulas & data that students should review prior to taking ACT:

Distance
1 foot = 12 inches
1 yard = 3 feet
1 mile = 5,280 feet
1 meter = 1,000 millimeters or 100 centimeters
1 kilometer = 1,000 meters

Area
1 square foot = 144 square inches
1 square yard = 9 square feet

Volume
1 cup = 8 fluid ounces
1 quart = 4 cups
1 gallon = 4 quarts
1 gallon = 231 cubic inches

Volume of:
Cylindrical Solid = $\pi r^2 h$
Sphere = $4/3 \, \pi r^3$
Cone = $1/3 \, \pi r^2 h$
Pyramid = 1/3 length x width x height

Quadratic Formula:

Weight
1 ounce = 28.350 grams
1 pound = 16 ounces
1 pound = 453.592 grams
1 milligram = 0.001 grams
1 kilogram = 1,000 grams
1 kilogram = 2.2 pounds
1 ton = 2,000 pounds

Rectangle
perimeter = 2(*length* + *width*)
area = *length* x *width*

Rectangular Solid (Box)
volume = *length* x *width* x *height*

Cube
volume = side x side x side

Triangle
sum of angles = 180°
area = ½ (*base* x *height*)

Circle (π = 3.14)
number of degrees in a circle = 360°
circumference = π x *diameter*
area = π x *radius* squared

Exponents:

Any number to the zero power is equal to 1

Any number to the first power is equal to itself

In multiplying numbers with exponents and the same base, the exponents are added

In multiplying numbers with two exponents, the exponents are multiplied

In dividing numbers with exponents, if the base is the same you subtract the exponent in the denominator from the exponent in the numerator.

LINES

$$Slope = \frac{Vertical\ change}{Horizontal\ change} = \frac{Rise}{Run}$$

Slope intercept form: $y = mx + b$ where m = slope, b = y-intercept

Horizontal lines: slope is 0
Vertical lines: slope is undefined

Parallel Lines have the same slope

Perpendicular Lines have slopes that are negative reciprocals.

PARALLEL LINES WITH TRANSVERSALS:

If l ll m, then angles 1, 3, 5 & 7 are congruent

and angles 2, 4, 6 & 8 are congruent

Opposite (vertical) angles are equal

Adjacent angles are supplementary
(add up to 180 degrees)

TRIANGLES

Pythagorean Theorem: $a^2 + b^2 = c^2$

Isosceles Right Triangle   30-60-90 Right Triangle

CIRCLES

Equation of a circle: $(x-h)2 + (y-k)2 = r2$
(h,k) = center and r = radius

Parallelogram: area = base x height
MEAN, MEDIAN AND MODE
Mean - the average
Median - the middle
Mode - occurs most frequently

TRIG: "SOHCAHTOA"

Sin = opposite/hypotenuse
Cos = adjacent/hypotenuse
Tan = opposite/adjacent

Imaginary numbers
i2 = -1

Distance Formula:

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$