

THS ACT Boot Camp Review for Math

Area of rectangle = length x width

Area of triangle = base x height / 2

Circumference of circle = $2\pi r$

Area of Circle = πr^2

Trapezoid: $\frac{(b_1+b_2)}{2} \times h$

A circle is 360 degrees around

A triangle has 180 degrees worth of angles

Formula for a circle: $(x-h)^2 + (y-k)^2 = r^2$

Where (h, k) are center and r is radius

45-45-90 triangle:

30-60-90 triangle:

Familiar right triangles:

Pythagorean Theorem: $A^2 + B^2 = C^2$ where C is hypotenuse

SIN = O/H

COS = A/H

TAN = O/A

Soh-Cah-Toa

Slope = rise / run or $y_2 - y_1 / x_2 - x_1$ or m in $y = mx + b$ where b is the y intercept on the graph

Distance: $\sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$

Midpoint:

Mean, Median and Mode: Mean = add up all numbers and divide by how many there are. Median = middle value mode = most common

How to find percentage: Part / whole x 100 Example, you got 13 right out of 20 on a test, = $13/20$, 65%

Volume of rec. prism = $l \times w \times h$

cylinder = $\pi r^2 h$

trapezoid = area of base times height of prism

1. Questions tend to progress in difficulty. 60 Questions, 60 minutes.
2. Once a student finishes Algebra II they have 90% of math covered.
3. Figures are drawn to scale-use answer sheet as ruler.
4. Answer choices are in least to greatest order.
5. Plugging in answer choices is often the fastest way to get your answer.
6. Watch out for on the way answers and multi-step problems.
7. Don't be discouraged if you've missed several in a row.
8. Draw pictures to help answer questions.
9. Know formulas for circumference, volume, area, Pythagorean theorem, percentages, slope, mean, median, and mode.
10. Strategy depends how far you've gone in math classes
11. #1-30 are mostly pre-algebra, geometry and basic math reasoning
12. #30-60 tend to get harder algebra II and a few trig. questions
13. So if students have not completed algebra II, then concentrate on the first half more.
14. If they are in advanced math courses, move quickly through the first 30 so they have more time on the harder questions.
15. 14 questions are pre-algebra, 10 algebra 1, 9 algebra 2, 23 geometry (14 figures, 9 coordinates) and 4 trig questions.

THS ACT Boot Camp Review for English and Reading

1. English test is 75 questions and 45 minutes and is basically an editing test. You should be at question 25 at 15 minutes, question 50 at 30 minutes and question 75 at 45 minutes. TAKE A WATCH!
2. Reading test is 40 questions and 35 minutes
3. 45 usage and mechanics questions and 30 rhetorical questions
4. Don't waste time. If you're stuck, eliminate one or more choices, then guess
5. The shortest choice is usually the best, as long as it makes sense, and 30% of the time, the answer is to shorten the sentence. CONCISE IS NICE
6. Watch out for redundant phrases
7. If two phrases sound similar, choose the less wordy choice
8. If you see "omit..." as a choice, then read the sentence with the omission and if it sounds fine, then select the answer that includes the omit because "omit/delete" is the correct answer 70% of the time
9. "No change" is the answer 25% of the time
10. Quit using too many commas! Very little punctuation is needed. Commas are mostly used in introductory phrases (dependent clauses), and to separate lists or ideas
11. Commas are needed for nested phrases like: Commas are needed for nested phrases, however, don't use them too often. (however is used often) Commas make up about TWELVE ACT questions!
12. Watch out for prepositional phrases (off, on from), usually get rid of them and avoid run on sentences
13. Make sure contractions are right (break them into two words like it's = it is)
14. Make sure tense matches all the way through a paragraph
15. Make sure the point of view matches (I, you, he)
16. Make sure there is subject/verb agreement ("she went" not "she go")
17. When you substitute a choice, make sure you reread the complete sentence and it makes sense
18. Read the whole passage as you select answers
19. Watch out for homonyms (whose vs. who's) or (very vs. vary) or (there, they're, their) or (it's, its)
20. Who and Whom...Who is the subject, Whom is the object example: Joyce is the girl who got the job.
Joyce consulted an astrologer whom she met in Seattle.
21. Singular possession is 's Plural possession is s' ex: Jaime's soda, the teachers' lounge
22. If the word is already plural like children, add 's ex: children's daycare
23. For reading, 60% of the questions are recall and 40% are inference. So you should read the passages and underline the most important parts, then do the questions and go back and scan for any answers you don't remember. They are all 700 to 800 word passages and they are always in the same order: Prose, Social Science, Humanities, Natural Science
24. Always read the first few introductory lines
25. Pay attention to shift words: however, thus, ultimately, therefore, on the other hand, surprisingly...
26. In the **prose** read for the **who** and **how the characters relate** and watch out for **flashbacks**.
27. All other passages, read for the **main idea or argument**.
28. Create a mental map of where things are in the passage.
29. The split passage can be any passage.
30. Do not bring outside knowledge with you!
31. ACT likes to hide answers in parentheses and italics.
32. PRACTICE READING! Freereadingtests.com, readtheory.org, readingsoft.com, speedreadingcenter.com, rocketreader.com

General test taking strategies

1. Get enough sleep, eat breakfast, use the restroom before you go and dress appropriately in layers
2. Take your photo ID and admission ticket, a calculator with fresh batteries, a watch, mints
3. Wake up in time, shower, crank your music to pump you up and arrive with at least 15 minutes to spare
4. Never leave an answer blank: Skip the ones you don't know and with 5 minutes left in each section go back and fill all the open questions in with the SAME letter (the least used one) answer all the way through.
5. PRACTICE, be confident and try again if you don't do well! You can take it up to 12 times!

THS ACT Science Boot Camp

1. 6 passages, 35 minutes (5.5 minutes per passage)
2. Go straight to the questions...read the study explanation under the charts and graphs because most the of the information you need to answer the questions can be found here. EXCEPT on conflicting scientist passage, then read the whole thing.
3. Use your pencil to mark information that is important
4. If you have background information in the sciences, use it
5. Skip if you have no idea and go back at the end to fill in your blanks
6. If you can mark out one or two poor choices, then take a guess
7. Out of the 40 questions, 20-25 you will be able to find the answers on the charts and graphs, 10-15 will require some reading, and about 5 will require previous science knowledge.
8. One passage is all reading. If you are a weak reader, skip this one and come back to it at the end.
9. Pay attention to graph trends
10. Math questions usually use estimates
11. ACT tries to intimidate you using crazy graphs with language you have never seen. Don't be deterred. Go with what you know and break it down.
12. Write all over your test!

Science Practice:

<http://www.act.org/content/act/en/products-and-services/the-act/test-preparation/science-practice-test-questions.html?page=0&chapter=0>

Math Practice:

<http://www.act.org/content/act/en/products-and-services/the-act/test-preparation/math-practice-test-questions.html?page=0&chapter=0>

English Practice:

<http://www.act.org/content/act/en/products-and-services/the-act/test-preparation/english-practice-test-questions.html?page=0&chapter=0>

Reading Practice:

<http://www.act.org/content/act/en/products-and-services/the-act/test-preparation/reading-practice-test-questions.html?page=0&chapter=0>