The ACT English Section

Overview:

- The English section is the first of 4 sections on the ACT standardized test.
- There are 75 questions, and we are given 45 minutes to complete them
- There is no order of difficulty- the most crucial thing is to get through all 75 questions!
- This section does test your grammar and vocabulary skills, but it mostly tests how well you can edit; you need to fix grammar mistakes and punctuation, and improve passages as a whole to make them sound as good as possible.

Structure:

- 75 questions, 45 minutes
- There are 5 passages that you work through, and each passage has 15 questions within it.
- Portions of the passages are underlined, and you must decide if everything is correct, or if one of the answers would fix or improve the selection.
- One of the multiple-choice selections is "NO CHANGE". If you feel that the underlined portion is grammatically correct and that the sentence or phrase sounds as good as it is, then "NO CHANGE" is the answer you want to select.
- Some other types of questions include reordering sentences to create a more logical order of a paragraph or adding/removing text. At the end of a passage, there is usually a question or two that regard the passage as a whole.

4 quick rules to keep in mind:

➔ "Complete, Consistent, Clear, Concise"

"Complete"

- A lot of the questions involve the structure of the sentence and its punctuation.
- The correct answer will depend on whether the ideas are complete or incomplete.
- A complete idea can stand on its own- it could even be the entire sentence.
- Examples of complete ideas:
  - ❑ *Hannah catches a balloon.*
  - ❑ *Who won the tennis match?*
  - ❑ *Go Chiefs!*
  - ❑ *The runners celebrated after they won the cross country meet.*

The best way to go about complete ideas is by thinking of them as parts of conversations. If you are talking to someone, you don't want to leave them hanging- you don't want them to be confused at all. This is exactly how you should be going about the English section!

- ➢ Definition of complete idea:
  A complete idea must have a subject and a verb, and it can stand on its own.

- Examples of incomplete ideas:
  - ❑ *Since you bought the popcorn*
  - ❑ *The runner who won*
  - ❑ *The teacher grabbed*

  If you were engaged in a conversation, and the person you were talking to began their sentence with one of these, you would be waiting for them to finish their thought before you speak. That's because all 3 of these examples are confusing if they are said just like that… Therefore, if a sentence sounds confusing, and if it requires more information to make sense, then it is incomplete and needs fixation!

  - ➢ Definition of an incomplete idea:
    An incomplete idea is missing something, whether it be the main idea, the subject or the verb, or the rest of an idea. It can NOT stand on its own.

- **STOP Punctuation:**
  2 cars coming to an intersection from opposing directions rely on traffic signals that are designated to stop them. Without traffic signals, they may crash into one another. 2 complete ideas are similar to this- they need strong punctuation to separate them. STOP punctuation includes Periods, Semicolons, Question marks, Exclamation marks.

➔ Example:
"After the loud music started. The girls began to dance".

- ❑ A. NO CHANGE

- ❏ B. started, the girls began,
- ❏ C. started; the girls began
- ❏ D. started, the girls began

  If we plug in each choice to the sentence, we can start to see that several choices simply sound wrong. To start, choice A includes an incomplete idea- "After the loud music started". STOP punctuation can only come between 2 complete ideas, so choice A is wrong. The same goes for choice C- the part before the semicolon is an incomplete idea. This leaves us with choices B and D. By plugging both of them in, and reading the resulting sentences, it can be seen that the comma at the end of choice B is unnecessary. Therefore, choice D is correct.

- **GO Punctuation:**

  Punctuation is used to connect incomplete ideas to form a complete one or to "prevent accidents" just like traffic signals do. A full sentence is always a complete idea, so there will always be STOP punctuation at the end of it. Within a sentence, punctuation should be used to avoid errors or to make the meaning clear. Punctuation should not be used if it slows down ideas and makes the sentence longer than necessary, or even incomprehensible. Using a comma to slow down, but not stop, ideas. However, if an idea does not need slowing down, don't add unnecessary punctuation!

➔ Example:

"I wondered how Hannah had learned <u>to juggle and</u> asked her mother".

- ❏ A. NO CHANGE
- ❏ B. to, juggle and
- ❏ C. to juggle; and
- ❏ D. to dance. And

  If we were to put a period or semicolon between "juggle" and "and", the second idea would be incomplete. Therefore, choices C and D must be eliminated. We are left with A and B. B simply does not make any sense if you were to read it out loud, so the correct choice is A.

- **Commas:**

Commas can be used to STOP; a comma can separate two complete ideas from one another. Commas can also be used to GO; a comma can link an incomplete idea to a complete idea, or vise versa. Commas can also be used to LIST; a comma cab separate items in a list. Finally, commas can be used for UNNECESSARY INFORMATION; commas can be placed around unnecessary info.

➔ Example:

"Researchers now believe that the ability to mimic, which only certain species of creatures are capable, of acquiring, is necessary for an animal to keep a synchronized beat.

- ❏ A. NO CHANGE
- ❏ B. mimic, which only certain species of creatures are capable
- ❏ C. mimic, which, only certain species of creatures are capable
- ❏ D. mimics which only certain species of creatures are capable.

  By reading on, we can see that there is another comma after "acquiring", so we can conclude that there must be a comma earlier in the sentence to fulfill the "Unnecessary info" use of commas. It would make sense for there to be commas on either side of "which only certain species of creatures are capable of acquiring". Option B fulfills this and therefore is the correct choice.

- **Conjunctions:**

Punctuation is not the only way to link ideas. Conjunctions can do this as well. Some common conjunctions are: although, as, because, if, since, that, until, what, which, while, when, where, who, whom.

Some questions on this section of the test require you to add or remove a conjunction.

➔ Example:

The cockatiel bird, which also mimics human speech and therefore can dance.

- ❏ A. NO CHANGE
- ❏ B. bird which
- ❏ C. bird that
- ❏ D. bird

The sentence, as it currently is, leaves us hanging at the end as if we are waiting for the main point to be made regarding the cockatiel birds. Therefore, it is an incomplete idea. This eliminates choice A. The use of a conjunction creates this hanging feeling and leads to an incomplete idea. Therefore, B and C must be eliminated as they both use conjunctions. Choice D is the correct answer.

Summary of "Complete"

- The ACT likes to test whether or not you know if a sentence is put together and is punctuated correctly.
- A complete idea can stand on its own like a complete sentence could, even if it's part of a longer sentence. An incomplete sentence cannot stand on its own.
- STOP punctuation includes a period, a semicolon, an exclamation mark, a question mark, and a comma. STOP punctuation can only come between two complete ideas.
- GO punctuation includes a comma and nothing at all. GO punctuation can link anything EXCEPT for two complete ideas.
- Put a comma before *and* at the end of a list with three or more items. Also, commas separate the items from one another within the list.
- Always put commas before and after unnecessary information.
- Conjunctions make an idea incomplete

Consistent, Clear, Concise

- **Verbs**
  - ❑ A verb expresses an action, feeling, or state of being.
  - ❑ The form of a verb depends on the number of the subject (singular or plural), the time of the event, and the presence of helping verbs.
  - ❑ Basic approach:
    1. Identify the subject; the verb must be consistent with its subject (singular with singular, plural with plural).
    2. Check the tense; tense must be consistent with the setting and participle.
    3. Be concise!!! Pick the answer that is the shortest (as long as it is free of errors).
- **Irregular verb participles:**

- ❖ The ACT sometimes makes the verb tenses difficult. They love testing the correct past participle for irregular verbs.

➔ Example:

"I <u>woken up</u> at 9:30 to find that my alarm had failed to go off"

- ❑ A. NO CHANGE
- ❑ B. had woke up
- ❑ C. woke up
- ❑ D. waked up

  This is the type of question where you can simply go off the ear and think about which answer choice sounds the most natural. In this case, choice C is the only one that does not sound confusing.

- **Pronouns:**
  - ❖ Pronouns take the place of nouns and make writing more concise
  - ❖ Basic approach:
    1. Find the original. The pronoun must be consistent with the noun it replaces in number and gender.
    2. Check the case. Choose the correct pronoun based on its specific function in the sentence.

➔ Example:

"Have you ever had a day when you wished <u>you could have</u> just slept for a few more hours?"

- ❑ A. NO CHANGE
- ❑ B. you could of
- ❑ C. one could of
- ❑ D. one could have

  Right off the bat, the sentence as it is does not seem wrong, so leave choice A. However, choices B and C both use "could of" which is NEVER the right answer ('of' is not a verb which 'have' is). Therefore, eliminate both of those. Choice D

is also wrong as the pronoun should be consistent with the 'you' in the non-underlined portion of the sentence. So, choice A is right.

- **Who vs. Whom:**

  'Who' is a subject pronoun. 'Whom' is an object pronoun. Whenever you see this on a test, replace 'who' with 'he' and 'whom' with 'him'. See if it makes sense. For example, if you would say "He talked to me", it would be "who talked to me". If you would say "I talked to him" you would say "Whom I talked to".

- **Apostrophes:**

  Apostrophes make our writing more concise. They have 2 uses.

  - ❖ 1. Possession

    To show possession with singular nouns, add 's, and with plural nouns ending with 's', add the apostrophe right after the 's'.

  - ❖ 2. Contractions

    Whenever you see a pronoun with an apostrophe, it's (it is) a contraction. This means that the apostrophe takes the place of at least one letter.

➔ Example:

"I watched in dismay as my phone was crushed beneath the <u>cars wheels'.</u>"

- ❑ A. NO CHANGE
- ❑ B. cars' wheels.
- ❑ C. car's wheels'.
- ❑ D. car's wheels

  Wheels cannot possess anything, so choices A and C are wrong as they utilize "wheels'". There is only one car, so B must be eliminated since it utilizes the plural form. Therefore, the answer is D.

- **Concision:**

  At times, the ACT directly tests the concept of concision. Let's look at a question.

➔ Example:

"I was already an hour late to <u>work and not on time</u>."

- ❑ A. NO CHANGE
- ❑ B. work, and behind schedule.

- ❑ C. work and delayed in getting the morning started.
- ❑ D. work.

The narrator has already established that he or she is late, so to fulfill conciseness, our answer should not restate this. A, B, and C all restate the idea that he/she is late for work. D, however, is very clear and concise, and is the correct choice.

Summary of "Consistent, clear, and concise"

- The ACT heavily tests verbs, pronouns, and apostrophes.
- They are identifiable from changes in the answer choices.
- When working on a 'concise' question, you should be biased towards the DELETE option, but please don't assume it will always be right.

Rhetorical Skills

1. **Except/Least/Not**
   - ❖ There are usually a few questions on each test that ask for you to answer with the choice that is NOT acceptable. You must go through all 4 choices and 3 of them will be correct while 1 will be wrong. That 1 is your answer.

➔ Example:

"I gave my information to the financial aid director at the college admissions office. He assured me that he would call me if I could receive more financial aid.

Which of the following alternatives to the underlined portion would NOT be acceptable?

- ❑ A. office; he assured
- ❑ B. office, and he assured
- ❑ C. office, he assured
- ❑ D. office, who assured

A and B both use STOP punctuation; 2 complete ideas are connected by the proper punctuation. Therefore, A and B are acceptable. Choice C, however, is not punctuated correctly. A comma cannot be used alone as

STOP punctuation. The sentence is a run-on and does not sound right. Therefore, C is unacceptable and is the correct answer

2. **Word Choice**

Sometimes, the ACT asks you to change a word within a phrase to a word that better fits the context.

➔ Example:

"After an hour of Layla and her dog playing, toys, balls, and plush animals were scattered around the bedroom".

Which of the following alternatives to the underlined word would be LEAST acceptable?

- ❑ A. on
- ❑ B. throughout
- ❑ C. all over
- ❑ D. about

Choices B, C, and D can all be put in place for "around" in the context of this question. Choice A, however, changes the meaning and does not sound right, so the answer is A.

3. **Other commonly confused words:**

- ❖ Affect vs. Effect

  Affect- verb, to cause to happen or change

  Effect- noun, the result of something

- ❖ Allusion vs. Illusion vs. Elusion

  Allusion- a reference to something

  Illusion- a visual trick

  Elusion- escaping or avoiding

- ❖ Sight vs. Site vs. Cite

  Sight- related to seeing something

  Site- location of something

  Cite- show something as a source

- ❖ Passed vs. Past

Passed- went by

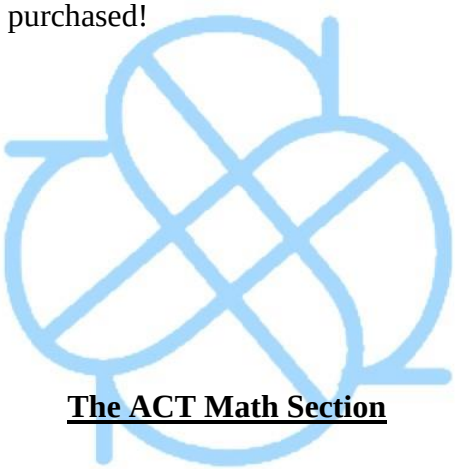
Past- previous (already happened)

- ❖ Then vs Than

Then- refers to time

Than- used to make comparisons

- **This covered very important topics to know before you take the ACT English section!**
  - ❖ It is really important to not only review the content but to practice, practice PRACTICE!
  - ❖ There is no better way to practice than to take real practice tests that can be found online or can be purchased!
  - ❖ GOOD LUCK!



The ACT Math Section

Overview:

- The math section is the 2nd section of the exam
- To maximize your score, you should familiarize yourself with the structure of the test, and learn strategies that will work for you.
- There are 60 questions, and you have 60 minutes
- The questions start easier, but progressively get harder

Structure/What to expect:

- 60 questions, 60 minutes
- The typical breakdown:
  1. "Preparing for Higher Math" (34-36 questions)
     - ➔ Includes: number and quantity, algebra, functions, geometry, statistics/probability.

2. "Integrating Essential Skills" (24-26 questions)
3. Modeling (15+ questions).

- Being able to use a calculator (bring one!)

What NOT to expect:

- A formula sheet! They do not provide one, but for some questions, the formula may be given within the problem.

Order of Difficulty:

- The questions start easy but get harder as you go on.
- This section is the only one on the test that is in Order of Difficulty!

Important to note:

- Every question is worth 1 point. This means that if you miss the hardest question, but your friend misses the easiest question, you both lose 1 point
- This means that you should aim to solve all the questions you know you can do, and perhaps not spend as much time trying to figure out the very difficult questions

"Now, Later, Never":

- "Now"- do the problems you are sure you know how to solve quickly and correctly.
- "Later"- if a problem seems a bit confusing, save it for later.
- "Never"- some problems on the test are horrifying. If you read a question and realize you have no idea about it at all, it may be better to just leave it, and make a guess.
- Don't leave any questions unanswered… make a guess!

Fundamentals

1. Be familiar with the following:

- Positive numbers
- Negative numbers
- Odd integers
- Even integers
- Reciprocals
- Opposite reciprocals

2. Factors and Multiples

- Factor= a number that when multiplied with another number produces a given number or expression.

  Example: The factors of 12 are 1,2,3,4,6,12
- Multiple= the numbers we get by multiplying a number by an integer

  Example: The multiples of 12 are 12,24,36,48,60,etc.

Exponents

- Multiplying : when you multiply two numbers with common bases, ADD the exponents
- Dividing : when you divide two numbers with common bases, SUBTRACT the exponents.
- When you raise an exponential number to a power, MULTIPLY the exponents

Scientific Notation

- A way to write very large numbers and very small numbers concisely.
- 3.5 x 10^4= 35000

  When you have a positive power of 10, move the decimal point to the right however many places the exponent says.
- 4.3 x 10^-3= .0043

  When you have a negative power of 10, move the decimal point to the left however many places the exponent says.

Quadratics

- Quadratic equation= equation which has an exponent of 2 in it.
- Standard form of a quadratic equation is ax^2+bx+c+0
- Quadratics are calculated sometimes by multiplying 2 binomials.

  Ex. (x+2)(x+1)

  =x^2+3x+2

Roots, solutions, and x-intercepts

- When an equation is in factored form, for example (x+3)(x-5), you can find the roots/solutions/x-intercepts. You do this by setting the equation to 0:

  (x+3)(x-5)=0

  (x+3)=0 , (x-5)=0

  x=-3, x=5

VOCABULARY:

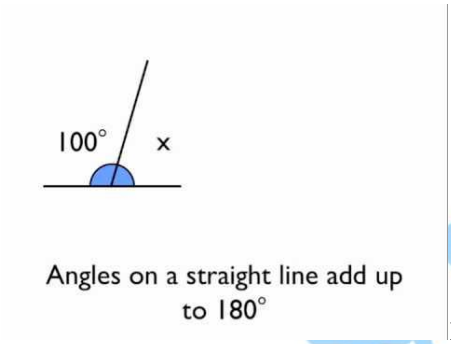
- Absolute value= distance a value is from zero (always a positive value)
- Consecutive= in increasing order
- Difference= result of subtracting
- Digits= integers from 0 to 9
- Distinct= different
- Divisible= an integer can be divided by another integer with no remainder left over.
- Even= divisible by 2
- Exponent/power= number that indicates how many times to multiply the base by itself.
- Factors= integers that multiply together to create a given product
- Greatest common factor = largest factor that 2 numbers share
- Irrational number= number that can be expressed as a decimal but not as a fraction.
- Least common multiple= smallest multiple that is common to two or more integers.
- Negative= less than 0
- Odd= NOT divisible by 2
- Positive= greater than 0
- Prime number= a number that has only itself and 1 as factors (ex. 3).
- Product= result of multiplication.
- Quotient= result of division
- Real number= zero, all positive and negative integers, fractions, decimals, and roots.
- Rational number= number that can be expressed as the ratio of 2 other numbers, making a fraction.
- Reciprocal= inverse of a number- flip the numerator and denominator.
- Remainder= the number left over when a number is not divisible by another number.
- Roots (solutions/ x-intercepts)= the x-values of a quadratic equation; x-value at which the quadratic crosses the x-axis

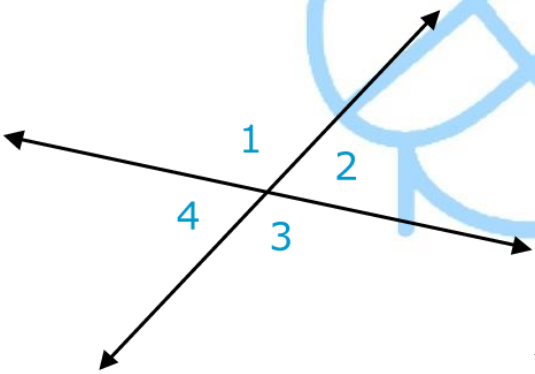
Geometry on the ACT

- Although the ACT says that their figures are not drawn to scale, usually it resembles the real thing pretty closely.

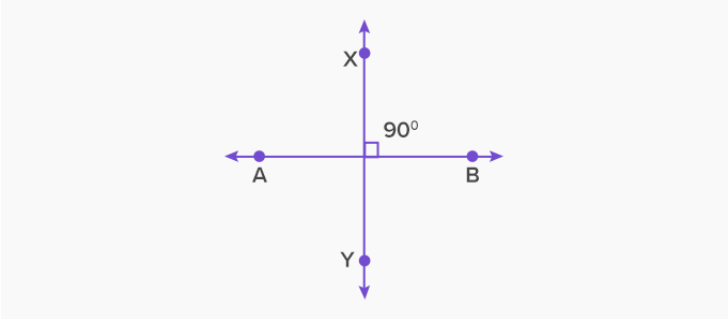
- If you are lost on a question that asks you to state the angle measurement, you should consider the answer choices and rule out any that simply don't make sense (too large or too small). Usually, you should be able to narrow it down!

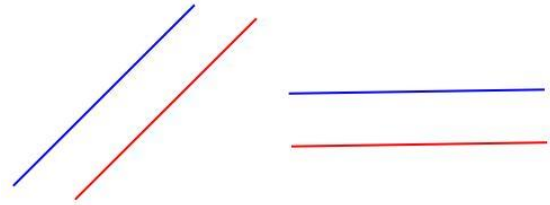
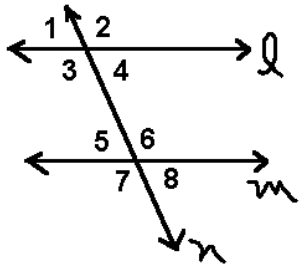
Geometry Review: Angles and Lines

- A line extends forever in both directions.
- A piece of a line is called a line segment
- A line forms an angle of 180 degrees.
- If a line is cut by another line, 2 angles are formed. These 2 angles add up to 180 degrees.
- 

100+x=180. x=80 degrees
- When 2 lines intersect, 4 angles are formed. The angles add up to 360 degrees.
- 

Here, angles 1,2,3 and 4 add up to 360 degrees.
- In the image above, angles 1 and 3, and 2 and 4 are opposite from one another and are EQUAL. They are known as vertical angles.
- When 2 lines meet in a manner that 90-degree angles are formed, the lines are perpendicular.

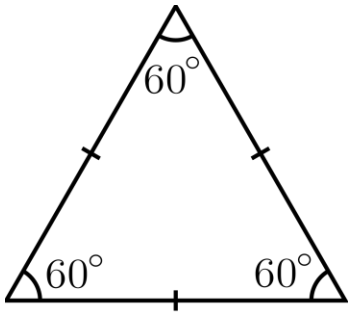
- 

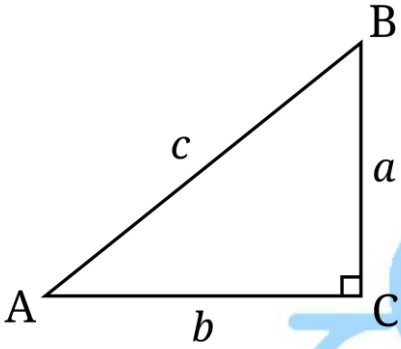
- When 2 lines are drawn so that they can extend into infinity and never cross one another, they are called parallel lines.
- 
- When 2 parallel lines are cut by a 3rd line (as shown below), this is known as parallel lines cut by a transversal. 8 angles are formed, but there are only 2 measurements.
- 

Here, the big angles all have the same measurement, as do the small angles. 1,4,5, and 8 have the same measure. 2,3,6 and 7 have the same measure.

Geometry Review: Triangles

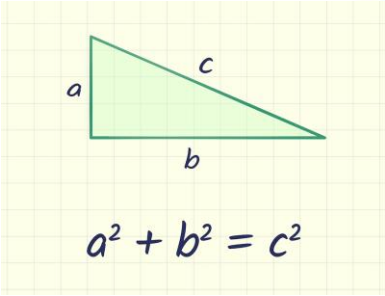
- A triangle is a figure that has 3 sides and whose interior angles add up to 180 degrees.
- The largest angle of a triangle is always opposed to the longest side.
- The smallest angle of a triangle is always opposed to the shortest side.
- An equilateral triangle has 3 equal sides and 3 equal angles.

- 

- A right triangle has one inside angle that measures exactly 90 degrees.
- The longest side of a right triangle is called the hypotenuse.
- 

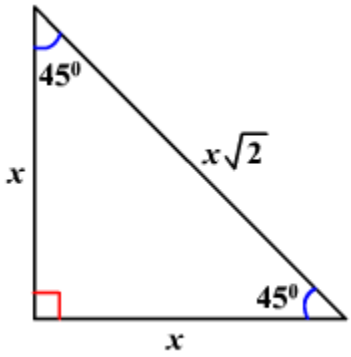
Here, C is the hypotenuse

Pythagorean Theorem

- The sides of a right triangle are always in a specific proportion.
- a^2+b^2=c^2
- 

The Isosceles Right Triangle (45-45-90 triangle)

- The sides and angles of the triangle are in a particular proportion.



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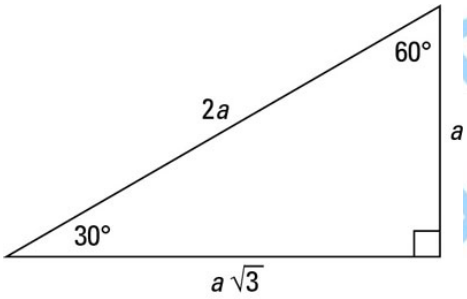
- It only works like this if the 2 legs are equal and if it is a right triangle.

The 30-60-90 triangle

- Also appears a lot on the ACT
- Also has sides that are in proportion



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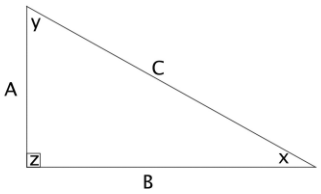
- \The hypotenuse is 2x the length of the shortest leg.

Area of a triangle

- area= .5(base)(height)



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- In this case, the area of the triangle would be .5(A)(B)

4 sided figures

- Include squares, rectangles, parallelograms, trapezoids.
- The interior angles of any 4 sided figure add up to 360 degrees.

- Areas of squares, rectangles, and parallelograms can be found by multiplying the base and the height.
- For trapezoids, the area can be found by either using this formula: .5(base 1)(base 2)(height), OR you can usually break down the figure into squares and triangles!

Circles

- Distance from the center of a circle to any point on the circle is the radius
- Distance from one point of the circle through the center to another point on the circle is the diameter.
- There are 360 degrees in a circle.
- The formula for the area of circle is: (pi)(r^2)
- The formula for the circumference of a circle is: 2(pi)(r)

Tips for Word Problems on the ACT

1. Understand what the question is asking
2. Look at the answers and let them guide you. Eliminate any that you know don't make sense!
3. Break the problem into smaller parts!

Percents

- There tend to be at least several problems that deal with percentages on the test.
- Usually, you can break the problem down into smaller pieces, and it's important to do so.
- Example:

  "When 15% of 40 is added to 5% of 260, the resulting number is":

  - ❏ A. 19
  - ❏ B. 40
  - ❏ C. 95
  - ❏ D. 180
  - ❏ E. 260

    First, look at the first part of the problem. Find 15% of 40. Do this by multiplying 40 by .15, to get 6. Then, find 5% of 260 by doing 260x.05, and getting 13. Add 5 to 13 to get the answer, which is 19 (choice A).

Ratios

- Example:

  If the ratio of 2x to 5y is 1/20, what is the ratio of x to y?

  - ❏ A. 1/40
  - ❏ B. 1/20
  - ❏ C. 1/10
  - ❏ D. 1/8
  - ❏ E. 1/4
  - ❖ It's all about the setup!

    2x/5y= 1/20

    Isolate the x/y by multiplying by 5/2 on both sides.

    x/y=5/40=1/8

    The answer is D.

Graphing Questions

- Example:

  Point B (4,3) is the midpoint of line segment AC If point A is at (0,1), then what are the coordinates of point C?

  - ❏ A. (-4,-1)
  - ❏ B. (4,1)
  - ❏ C. (4,4)
  - ❏ D. (8,5)
  - ❏ E. (8,9)

    It is useful and very simple to sketch a graph with these 2 points. We can see that point A's x coordinate is 4 units from the x coordinate of the midpoint, and that its y coordinate is 2 points from the midpoint's y coordinate. We must add these values to the midpoint to get point C. It results in (8,5) which is choice D.

Important formulas

- Slope- intercept form: y=mx+b, where m is the slope, and b is the y-intercept.
- Slope formula: change in y/change in x

  Example:

What is the slope of the line passing through (-2,5) and (6,4)?

- ❏ A. -1/16
- ❏ B. -1/8
- ❏ C. 1/5
- ❏ D. 2/9
- ❏ E. 4/9

Slope can also be written as (y2-y1)/(x2-x1). We just have to plug in the numbers. Here, it would be (4-5)/(6-(-2)). This is equal to -1/8, so the slope is -1/8, which is choice B.

- Midpoint formula:

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

- This is the midpoint formula!
- Distance formula:

Distance Formula

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

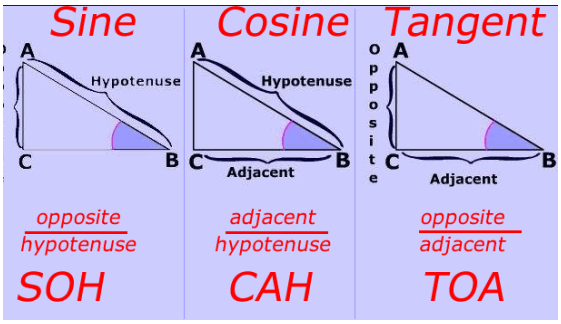
- Mrs. E Teaches Math This is the distance formula!

Trigonometry

- There are not too many ACT problems that deal with trigonometry
- However, if you are familiar with trig, the questions that do appear are usually fairly easy and can get you easy points!

SOH-CAH-TOA

- Sine= Opposite/Hypotenuse
- Cosine= Adjacent/Hypotenuse

- Tangent= Opposite/Adjacent
- ONLY WORKS FOR RIGHT TRIANGLE
- 

- Reciprocals of the relationships:
    1. cosecant=1/sine
    2. secant=1/cosine
    3. cotangent=1/tangent

Other possible topics (advanced)

- While the information covered above does cover most of what you'll see on the ACT, there are some other topics that can be thrown in that require more advanced skills.
- These include: Logarithms, Vectors, the Unit Circle, and Matrices
- Khan Academy does an excellent job of explaining these concepts in depth; you can learn everything you need to know about them by watching videos! Just look up whichever concept you need help on (ex. Khan Academy vectors)

This covered very important topics to know for the ACT exam

- Keep in mind that you don't have a lot of time during then section (60 min for 60 questions is 1 minute per question).
- Many people find it useful to try to work through the first 30-40 questions quite quickly so that they have more time to solve the harder problems at the end!
- To be able to work through the first half quickly, though, you must PRACTICE. A LOT. This section is one that you want to spend a lot of time practicing on. Be prepared for a variety of problems/concepts to show up!
- GOOD LUCK!!!

The ACT Reading Section

Overview:

- The reading section is the 3rd section of the test.
- There are 40 questions, and 35 minutes to answer them.
- This section requires you to manage your time efficiently!

Structure:

- 40 questions, 35 minutes
- 4 passages (10 questions each)
- The order of the works:
    1. Prose Fiction (literary narrative)
    2. Social Science
    3. Humanities
    4. Natural Science

Order of the passages:

- You don't have to work through passages in the order they are given in.
- Choosing your order is important (you gotta see what your strengths are!)
- Take a few reading practice tests, and see if there is a pattern for which passage type you consistently do the best on.

Order of the questions:

- The questions are not in chronological order
- They are not in any order of difficulty
- You don't need to work in order! Some questions are easier than other questions that appear.

"Now Questions":

- These questions are easy to answer (finding the answer is simple!)
- There are a lot of questions that take you to a certain section of the passage, and the answer usually paraphrases what it says in the passage.
- Also, there is usually at least 1 question per passage that asks you something like, "In line 81, the word 'detached' most nearly means…". These are probably the easiest to do as all you have to do is go to the line it tells you to go to and figure out which of the answer choices best answer the question.

“Later questions”:

- These questions are not as straightforward and require a bit more time
- Example: The main idea of the passage is that…
- Another example: The main purpose of the third paragraph (lines 17-23) is to show that...

Reasoning questions:

- These questions require more thought and are therefore harder to answer
- You may be asked to determine main ideas, interpret important details, understand event sequences, make comparisons, draw generalizations, comprehend cause and effect relationships, and analyze the author’s voice and method.

Process of elimination:

- On some of the more confusing questions, it would be logical to try to eliminate the answers that simply don’t make sense at all.
- Usually, you could be able to narrow it down to 2 answers, and this makes things much easier already.

The 6 Step Basic Approach

1. **Preview**
    - Read the blurb at the top of the passage (usually gives the title and a bit of background)
    - Map the questions.. Get an idea of what will be asked.
2. **Work the passage**
    - You can either read the whole thing in one sitting or try to answer some of the questions as you read.
    - If you choose to read it all at once, don’t spend too much time!
    - Underline the main points!
3. **Select and understand the question**
    - You don’t necessarily need to do the questions in order.
    - Start with the easy ones!
4. **Read what you need**
    - Some of the questions will require you to go back into the passage to dog out some less obvious information.

5. **Predict the correct answer**
    - Use the passage to come up with a possible answer to the question!
6. **Use the process of elimination!**
    - If you can identify the answer within the passage, search for its match among the answers.
    - Cross off any choices that you KNOW are wrong
    - If you are unsure about a choice, leave it.
    - If you are down to 2, look for keywords/phrases that may hint at the correct one.

Referral questions:

- Referral questions start with "According to the passage…", or by asking what the passage or author states.
- Referral questions can also be identified by the question having short answers.

Reasoning questions:

- Require you to read between the lines
- The correct answer is implied or suggested. It's not directly stated.
- You should look for the larger point being made by the author

Advanced Reading Skills

1. Negatives:
    - Sometimes, the test writers throw in a curveball by asking the question in the negative
    - They may use words such as except, least, or not. They want to see if you are paying attention.
    - Look at the answer choices, and rule out the correct ones!
2. Vocabulary in context:
    - In some questions, you may have to determine the meaning of a word or phrase as it is used in the context of the passage.

- Usually, the direct/most common meaning is NOT the correct answer.

3. Dual Reading Passage:
    - The ACT loves including dual passages in this section.
    - There are 2 shorter passages- passage A and passage B- and there are questions for passage A, then B, then both.
    - Read and answer for passage A first, then do passage B. After that, finish it off with the last few questions that regard both passages!

This covered important things to note for the ACT reading section!

- Practice is key. It takes a lot of time spent studying and practicing to get faster and more accurate!
- There are many free practice questions online!

The ACT Science Section

Overview:

- This section is the last section of the exam
- There are 40 questions and 35 minutes, which is just like the reading section
- Fatigue definitely impacts this section… Given that it is at the end, people tend to get tired and it can even impact their scores.

Structure:

- 40 questions, 35 minutes
- You do NOT need to have an amazing science background
- This section deals with reading and interpreting graphs and other scientific data.
- The passages deal with concepts ranging from biology, chemistry, and physics, to astronomy, geology, and meteorology.

The passages:

- All the passages fall into 3 categories:
    1. Charts and graphs (data representation): 2 passages with 6 questions each. Always come with figures to guide you for the questions!

2. Experiments (research summaries): 3 passages with 7 questions each. Usually, they come with figures. Describe several experiments and include more text than the Charts and Graphs passages do.
3. Dual science passages (conflicting viewpoints): 1 passage with 7 questions. This passage sometimes comes with figures. Usually, there is a lot of reading involved. You have to read about different viewpoints regarding a topic and answer questions that analyze each viewpoint.

Ordering the passages:

- Look for the easier passages first; usually, the ones with lots of tables and graphs are easier!
- Look for passages with short answers; these tend to take much less time.
- Pacing yourself is important; this section can be the one where you simply don't have time to finish.
- Be flexible. Be ready to do the passages out of order and perhaps guess on a tough question to not waste too much time.
- Use the process of elimination to cross off any unreasonable answers to save time.

Scientific Reasoning:

- Scientific reasoning is ultimately based on common sense.
- 3 rules:
    1. Don't make assumptions! Find the answer within the charts/passages
    2. Change one variable at a time; vary each independent variable to witness its effect on the dependent variable
    3. Keep all other variables the same; your other independent variables and everything else must be the same as you vary one and only one independent variable.
- Hypothesis= theory that needs proof to become a conclusion.
- Independent variable= creates or causes an effect on the dependent variable.
- On graphs, the independent variable is generally on the x-axis while the dependent variable is on the y-axis.
- In a direct relationship (on graphs), as x increases, y increases as well.

- Direct linear relationships have positive slopes that can be seen from the graph.
- In an inverse relationship, as x increases, y decreases.
- Inverse linear relationships have negative slopes that can be seen on the graph.
- A steep slope indicates that the independent variable has a big effect on the dependent variable.
- A smaller slope indicates that the independent variable does NOT have a very big impact on the dependent variable.

The Basic Approach

1. Work the figures: look at the trends and figures presented and try to identify some of the relationships between the variables.
2. Work the questions: do the straightforward questions first. Read if and only when you can't answer a question from the figures.
3. Work the answers: for the harder questions, use the Process of Elimination to narrow down the choices. If you are stuck between 2, then try to take a logical guess!
4. PACE YOURSELF!!!

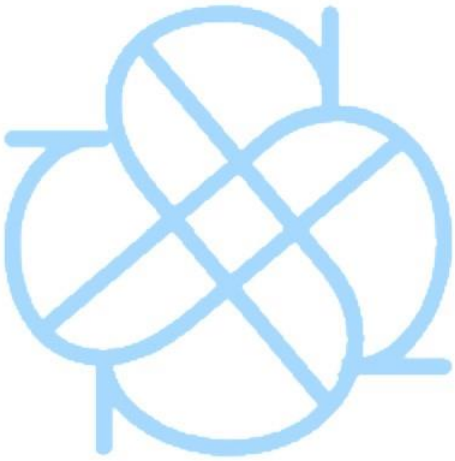
Dual Science Passages

- This passage deals with 2, 3, or even more conflicting viewpoints regarding a scientific phenomenon.
- Don't base any of your answers off of any information you know regarding the topic. Only use what is provided in the passage.
- Have a plan:
    1. Preview: look at what is being discussed, and try to figure out how many different hypotheses there are, and what these hypotheses are saying.
    2. One side at a time: to compare and contrast multiple hypotheses, you must understand each viewpoint and how it agrees/disagrees with the others. Read the arguments of the first viewpoint. It can help to underline the main arguments presented!
    3. The other side: now that you have read and understood the first viewpoint, you must do the same for the remaining viewpoints as well. When you read the

second, third, etc viewpoints, try to find the main idea, as well as how each hypothesis is similar and different from the first one.

This gave an overview of what to expect for the science section!

- ❖ However, it is very beneficial to go look at some real ACT practice tests to familiarize yourself with the different types of passages/questions the ACT will ask you to deal with.
- ❖ Practicing this section over and over is important as time goes by so fast here! You must be prepared to answer as many questions as possible while not spending too much time on any passage.
- ❖ GOOD LUCK!!!



Works Cited

- The Princeton Review- ACT Premium Prep book
- https://www.google.com/imgres?imgurl=https%3A%2F%2Fi.ytimg.com%2Fvi%2FcBIJmmz8flI%2Fhqdefault.jpg&imgrefurl=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DcBIJmmz8flI&tbnid=VZh9ic0-7JwIsM&vet=12ahUKEwiA472p0c3qAhWBWKwKHfRpCUYQMygAegUIARCkAQ..i&docid=2EeC88fyregxrM&w=480&h=360&q=angles%20on%20a%20straight%20line%20add%20up%20to%20180&ved=2ahUKEwiA472p0c3qAhWBWKwKHfRpCUYQMygAegUIARCkAQ first image (angles add up to 180 degrees).

- https://www.google.com/imgres?imgurl=https%3A%2F%2Fdr282zn36sxxg.cloudfront.net%2Fdatastreams%2Ff-d%253A8c0576d69058e00ae5055c8530a76b2f021dc88aad484b65750477b5%252BIMAGE_TINY%252BIMAGE_TINY.1&imgrefurl=https%3A%2F%2Fwww.ck12.org%2Fbook%2Fck-12-middle-school-math---grade-7%2Fsection%2F8.2%2F&tbnid=kLMbQn2Qhn5xHM&vet=12ahUKEwiV7Nj30M3qAhUEyKwKHc0uDfIQMygEegUIARCtAQ..i&docid=mCEb8WvsqKBBnM&w=464&h=323&q=line%20intersecting%20line%20angles&ved=2ahUKEwiV7Nj30M3qAhUEyKwKHc0uDfIQMygEegUIARCtAQ second image (4 angles formed by 2 lines).
- https://www.google.com/imgres?imgurl=https%3A%2F%2Fcdn-skill.splashmath.com%2Fpanel-uploads%2FGlossaryTerm%2F5013248f03424926a43415a2a693466f%2F1560414807_perpendicular-lines.png&imgrefurl=https%3A%2F%2Fwww.splashlearn.com%2Fmath-vocabulary%2Fgeometry%2Fperpendicular&tbnid=c3X1TGsGBonqtM&vet=12ahUKEwjD-vqF083qAhUNOawKHdBrCxIQMygAegUIARDPAQ..i&docid=NZx1vUGY8nnywM&w=680&h=300&q=perpendicular%20lines&ved=2ahUKEwjD-vqF083qAhUNOawKHdBrCxIQMygAegUIARDPAQ third image (Perpendicular lines)
- https://www.google.com/imgres?imgurl=https%3A%2F%2Fsigmatricks.com%2Fwp-content%2Fuploads%2F2019%2F06%2FParallel-Lines-1.jpg&imgrefurl=https%3A%2F%2Fsigmatricks.com%2Fparallel-lines%2F&tbnid=s3TfHi4Vt-X0mM&vet=12ahUKEwiN-ZOw083qAhWWYqwKHXq2A2EQMygHegUIARDlAQ..i&docid=hVRSgwmaHFLDHM&w=493&h=187&q=parallel%20lines&ved=2ahUKEwiN-ZOw083qAhWWYqwKHXq2A2EQMygHegUIARDlAQ fourth image (parallel lines)
- https://www.google.com/imgres?imgurl=http%3A%2F%2Fwww.mathnstuff.com%2Fmath%2Fspoken%2Fhere%2F2class%2F260%2Ftrans1.gif&imgrefurl=http%3A%2F%2Fwww.mathnstuff.com%2Fmath%2Fspoken%2Fhere%2F2class%2F260%2Ftrans.htm&tbnid=Ihck4fKqDTX4aM&vet=12ahUKEwick93Z083qAhUByawKHb6ABfoQMygAegUIARDMAQ..i&docid=g8aqxWMDoWvqaM&w=254&h=229&q=parallel%20lines%20cut

%20by%20a%20transversal&ved=2ahUKEwick93Z083qAhUByawKHb6ABfoQMygAegUIARDMAQ fifth image (Parallel lines cut by transversal)

- https://www.google.com/imgres?imgurl=https%3A%2F%2Fupload.wikimedia.org%2Fwikipedia%2Fcommons%2Fthumb%2F9%2F96%2FTriangle.Equilateral.svg%2F1200px-Triangle.Equilateral.svg.png&imgrefurl=https%3A%2F%2Fen.wikipedia.org%2Fwiki%2FEquilateral_triangle&tbnid=YINQc5ZLS_XsTM&vet=12ahUKEwit9JTJ1M3qAhUJZq0KHeUpBZoQMygAegUIARDRAQ..i&docid=kMk_bfdD25mCfM&w=1200&h=1082&q=equilateral%20triangle&ved=2ahUKEwit9JTJ1M3qAhUJZq0KHeUpBZoQMygAegUIARDRAQ sixth image (equilateral triangle).
- https://www.google.com/imgres?imgurl=https%3A%2F%2Fupload.wikimedia.org%2Fwikipedia%2Fcommons%2Fthumb%2F6%2F6f%2FRtriangle.svg%2F1200px-Rtriangle.svg.png&imgrefurl=https%3A%2F%2Fen.wikipedia.org%2Fwiki%2FRight_triangle&tbnid=IClw3Kerzu04sM&vet=12ahUKEwjLlrXw1M3qAhVb66wKHWUfB5YQMygAegUIARDSAQ..i&docid=HQqDAwGtqdQ3cM&w=1200&h=1020&q=right%20triangle&ved=2ahUKEwjLlrXw1M3qAhVb66wKHWUfB5YQMygAegUIARDSAQ seventh image (right triangle).
- https://www.google.com/imgres?imgurl=https%3A%2F%2Fmiro.medium.com%2Fmax%2F923%2F1*SsN2DG__Z5DyOI0uf7hbwQ.png&imgrefurl=https%3A%2F%2Fmedium.com%2Fswlh%2Fwhy-the-pythagorean-theorem-is-true-1d4c8a508510&tbnid=sJVqe2EbNnOMhM&vet=12ahUKEwj45cin1c3qAhVPDq0KHcm-DqIQMygDegUIARDWAQ..i&docid=JfubgKk4OZov2M&w=923&h=705&q=pythagorean%20theorem&ved=2ahUKEwj45cin1c3qAhVPDq0KHcm-DqIQMygDegUIARDWAQ eighth image (pythagorean theorem).
- https://www.google.com/imgres?imgurl=https%3A%2F%2Fwww.varsitytutors.com%2Fassets%2Fvt-hotmath-legacy%2Fhotmath_help%2Ftopics%2F45-45-90-triangles%2Ftriangle1.gif&imgrefurl=https%3A%2F%2Fwww.varsitytutors.com%2Fhotmath%2Fhotmath_help%2Ftopics%2F45-45-90-triangles&tbnid=SbGFHcQWMVA46M&vet=12ahUKEwjtzJbs1c3qAhURNKwKHcwEDuQQMygDegUIARDOAQ..i&docid=Vyqzf2mCiA4E2M&w=200&h=200&q=45%204

5%2090%20triangle&ved=2ahUKEwjtzJbs1c3qAhURNKwKHcwEDuQQMygDegUIARDOAQ ninth image (45 45 90 triangle)

- https://www.google.com/imgres?imgurl=https%3A%2F%2Fwww.dummies.com%2Fwp-content%2Fuploads%2F369580.image1.jpg&imgrefurl=https%3A%2F%2Fwww.dummies.com%2Feducation%2Fmath%2Fcalculus%2Fquick-guide-to-the-30-60-90-degree-triangle%2F&tbnid=ctFr9rbegmEsmM&vet=12ahUKEwjO15qk1s3qAhVJ-awKHQ-PAYAQMygBegUIARDZAQ..i&docid=R9nfTGqNX8Gs2M&w=400&h=257&q=30%2060%2090%20triangle&ved=2ahUKEwjO15qk1s3qAhVJ-awKHQ-PAYAQMygBegUIARDZAQ tenth image (30 60 90 triangle).
- https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.varsitytutors.com%2Fbasic_geometry-help%2Fhow-to-find-the-area-of-a-right-triangle&psig=AOvVaw23FKloZxa5OQPh9G3TTQ0U&ust=1594848243378000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCLjMh_LWzeoCFQAAAAAdAAAAABAD eleventh image (area of a triangle)
- https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.khanacademy.org%2Fmath%2Fgeometry%2Fhs-geo-analytic-geometry%2Fhs-geo-distance-and-midpoints%2Fa%2Fmidpoint-formula-review&psig=AOvVaw1_e-sH-t4_quoTU_BvVZa3&ust=1594854936569000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCNig4-TvzeoCFQAAAAAdAAAAABAI twelfth image (midpoint formula)
- https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.ck12.org%2Fc%2Fgeometry%2Fapplications-of-the-distance-formula%2F%3Fby%3Dcommunity&psig=AOvVaw33mC6ykVym9V17Y2iPZgMe&ust=1594855040804000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCLjr-pbwzeoCFQAAAAAdAAAAABAD thirteenth image (distance formula).
- https://www.google.com/url?sa=i&url=https%3A%2F%2Feducationisaround.com%2Fsohcahtoa%2F&psig=AOvVaw0ulgoh2K_980JBSqG-3q4S&ust=1594856060745000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCIjUsf3zzeoCFQAAAAAdAAAAABAD fourteenth image (SOHCAHTOA).