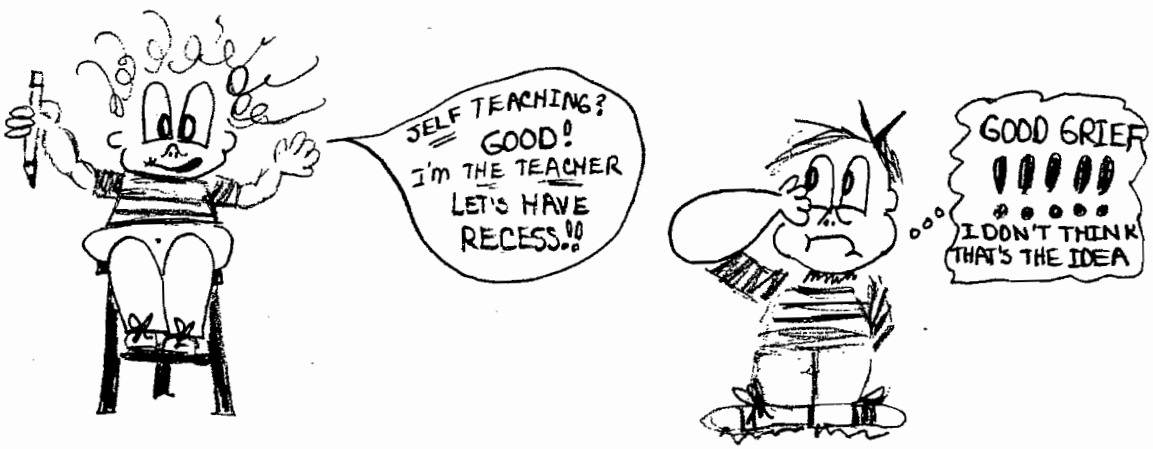
GED

Self-Teaching

Manual



TO THE EDUCATOR

It is not the point of this manual to compensate for 12 years of formal education by imparting to the student various concepts and theories of English and Math but rather to acquaint the student with the knowledge he already possesses. For example, the student might not recognize subject-verb disagreement by title but he can discern a grammatical inconsistency by ear — it just doesn't sound quite right — he only needs to be told WHY.

It is believed the adult student is approaching learning from a different perspective in that he is not learning NEW material but previously introduced material that he is now ready, even anxious, to digest. Drawing on his current environment, ideas are reintroduced in a comprehensible manner simply because they are useful to the learner in everyday situations. Many of those hazy, vague concepts from days gone-by can be crystallized and directed into concrete principles to be utilized today. The small pieces of missing data that complete the picture for the student can at last be inserted because the formerly absent catalyst, MOTIVATION, is at hand. The adult learner is again asking "WHY", seeking knowledge for the earnest desire of it, as he once did as a child.

TO THE STUDENT

WELCOME TO WHAT I HOPE WILL BE AN ENJOYABLE LEARNING EXPERIENCE FOR YOU... DO NOT BE FOOLED BY THE DRAWINGS, THIS IS SERIOUS STUFF! IT IS HOPED THAT YOU WILL FIND YOUR TRAVELS THROUGH THIS BOOK TO BE ENTERTAINING AS WELL AS INFORMATIVE.

NO ATTEMPT HAS BEEN MADE TO COVER ALL THE GED TEST INFORMATION (WHICH WOULDN'T BE IN PUBLIC HANDS ANYWAY) BUT THERE ARE PLENTY OF IDEAS THAT ARE ON THE GED AND IF YOU GET MANY OF THEM RIGHT, YOU'LL PASS WITH LOTS OF BREATHING ROOM! AFTERALL, NO MATTER WHAT STATE YOU'RE FROM, WITH THEIR VARYING RULES, YOU STILL ONLY HAVE TO GET ABOUT ½ (ONE OUT OF TWO) QUESTIONS RIGHT TO PASS, YOU CAN DO THAT!!!

DO PRACTICE TAKING TESTS SO YOU AREN'T SURPRISED (HORRIFIED?) WHEN YOU FIRST ENCOUNTER THE GED. THE MOST EXCELLENT AND UPDATED SMALL BOOKLET I'VE SEEN IS AVAILABLE AT VERY LOW COST FROM: THE GED INSTITUTE, 6 STREET NW, WATERVILLE, WA 98858. (CALLED THE GED HANDBOOK)

THE NEXT IMPORTANT THING YOU CAN DO IS READ A LOT. READ ANYTHING YOU LIKE, JUST GET USED TO READING! AND REMEMBER THE TEST IS PROBALY NOT AS HARD AS YOU THINK!

I LOVE GRAMMER

(I don't think it's the same one)

FORWARD TO ENGLISH

EXCUSE ME...
I, er, I'm, EH,
not real interested in
this, uh, er, topic

"STUPID" ALIAS "DUMB" VS. "MISSING INFORMATION"

I FEEL CONFIDENT THAT MOST PEOPLE DO NOT GIVE A "WRONG" ANSWER ON PURPOSE. "WRONG" ANSWERS ARE NOT REWARDED IN OUR SOCIETY WITH THUNDEROUS APPLAUSE; CONSEQUENTLY IT IS ILLOGICAL TO ASSUME A PERSON WOULD MAKE SUCH A RESPONSE IF HE HAD **ALL** THE INFORMATION. I BELIEVE STUDENTS WHO DO NOT GIVE THE "RIGHT" ANSWER ARE MERELY MISSING INFORMATION THAT WOULD ALLOW THEM TO GIVE A CORRECT RESPONSE. THIS OCCURS ON A REGULAR BASIS WITH CHILDREN, WHERE IT IS LABELED "CUTE" RATHER THAN "STUPID". A TODDLER SEES A FURRY LITTLE ANIMAL... MOTHER SAYS "KITTY." THEN A FLUFFY DOG WALKS BY AND THE CHILD SAYS "KITTY." GIGGLES AND "OH ISN'T THAT PRECIOUS" RESOUND FROM MOTHER AS SHE PROVIDES THE CHILD WITH MORE INFORMATION TO RESPOND CORRECTLY.

SOMEWHERE BETWEEN CHILDHOOD AND ADULTHOOD THIS CONCEPT OF "MISSING INFORMATION" BECOMES "DUMB." AN ADULT (OR ADOLESCENT) IS CONSIDERED TO BE MISSING SOME INTELLECTUAL FUNCTION. WHAT IS EVEN WORSE THAN OTHERS LABELING US DEFICIENT; WE BRUTALIZE OUR OWN ABILITY WHEN WE ARE MERELY MISSING INFORMATION. WE MUST TEACH OURSELVES TO SAY THAT WE ARE JUST MISSING INFORMATION WHEN WE GIVE AN INCORRECT RESPONSE. WE ARE NOT STUPID, DUMB, OR MENTALLY DEFICIENT.

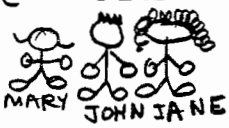
IF I GET INTO A CAR BEFORE SOMEONE TEACHES ME TO DRIVE AND I HIT A TREE, I AM NOT STUPID, I JUST DO NOT HAVE ENOUGH INFORMATION; I HAVE NOT BEEN TAUGHT HOW TO DRIVE. BUT, I CAN LEARN TO DRIVE! AND SO IT IS WITH ACADEMIC MATERIALS, YOU CAN LEARN WHAT YOU NEED TO KNOW. YOU WILL BE SUPPLIED WITH "MISSING INFORMATION" AND YOU CAN LEARN IT!!!

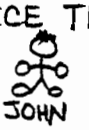
OKAY...
LETS GO!!

1.)

LET'S LOOK OVER SOME ENGLISH IDEAS...

MARY, JOHN AND JANE IS ALIVE AND WELL. ← WHAT IS WRONG?

NOTICE THREE PEOPLE ARE LISTED 

— THAT IS MORE THAN ONE 

SO THE VERB (~~IS~~) SHOULD BE THE RIGHT ONE TO USE FOR MORE THAN ONE.

~~IS~~ WRONG ARE CORRECT

MARY, JOHN, AND JANE ARE ALIVE AND WELL.

YOU CAN PROBABLY HEAR SUBJECT~VERB AGREEMENT (OR IF THE "MAIN THING" IN THE SENTENCE IS MORE THAN ONE OR JUST ONE THE VERB MUST AGREE IN NUMBER AS ONE, OR MORE THAN ONE)

EXAMPLES: HE IS SWELL. (ONE PERSON, HE; IS SINGULAR VERB)
THEY ARE SWELL. (MORE THAN ONE, THEY; ARE PLURAL VERB)
HE RUNS QUICKLY. (ONE PERSON, HE; RUNS SINGULAR VERB)
THEY RUN QUICKLY. (MORE THAN ONE, THEY; RUN PLURAL VERB)

(HINT: LOTS OF SINGULAR VERBS END IN "S": IS, RUNS, READS)

TELL WHETHER THE FOLLOWING ARE CORRECT:

1.) HE PLAYS BASEBALL.
2.) THEY PLAYS BASEBALL.
3.) IT RUIN THE DAY WHEN IT RAINS.
4.) SCISSORS IS SHARP.
5.) NO ONE ARE SAFE.

1.) OKAY
2.) SHOULD BE PLAY
3.) SHOULD BE RUINS
4.) SHOULD BE ARE.
5.) SHOULD BE IS. (NO ONE)

A QUICK OTHER REFRESHER: USE TOO WHEN IT MEANS ALSO OR A LOT.
TO IS A CONNECTOR OR "GOING SOMEPLACE WORD."

1.) IT IS TOO HOT. (A LOT)
2.) BRING JANE TOO! (ALSO)
3.) I WENT TO THE STORE. (GOING SOMEWHERE)

WOW! WE ALREADY COVERED TWO IDEAS ON JUST THIS ONE EENY PAGE!

CHECK CAREFULLY FOR THE VERB (ACTION WORD) TO MAKE SURE IT IS THE RIGHT ONE FOR THE NUMBER IN THE SUBJECT (OR "MAIN PERSON, PLACE, OR THING)

THE GED TEST...

DUH... MAYBE THIS ISN'T A GOOD IDEA ...
WELL LET'S SEE QQ

1. DO YOU HAVE A GED NOW? NO!
2. IF YOU PASS, WILL YOU HAVE A GED? YES!
3. IF YOU DO NOT PASS, WILL YOU HAVE A GED? NO!
4. IS THE ANSWER TO NUMBER 3 ANY DIFFERENT THAN THE ANSWER TO NUMBER 1? NO!
5. SINCE THE ANSWER TO NUMBER 1 IS NO DIFFERENT THAN YOUR ANSWER TO NUMBER 3 COULD YOU POSSIBLY BE ANY WORSE OFF FOR TRYING? NO! NO! NO!

THE ABSOLUTE WORST THAT CAN HAPPEN IS THAT YOU WON'T HAVE A GED THAT YOU DON'T HAVE NOW ANYWAY —

BUT

THE BEST PART IS YOU CAN GET A GED!!

YOU CAN DO IT!!!
YOU CAN DO IT!!!
YOU CAN DO IT!!!
RAH!! RAH!! RAH!!!

VERB ENDINGS GENERALLY SHOULD BE THE SAME ON ALL VERBS IN ONE SENTENCE.
EXAMPLES: I AM RUNNING, JUMPING, PLAYING.
NOT I AM RUNNING, JUMPED, PLAY.

MARY LOOKS PRETTY AND SMELLING NICE. BLEEP!

LET'S SEE... HOW ABOUT: MARY LOOKS PRETTY AND SMELLS NICE. DING DING DING OKAY!

ANOTHER ENGLISH BIGGEE...

YOU DON'T NOT NEVER PUT NONE TOO MANY NO WORDS IN NO SENTENCES YOU WRITE. AS A MATTER OF FACT, YOU SHOULD ONLY HAVE ONE NO WORD.

NO WORDS: NOT, NONE, NEVER, THE CONTRACTION N'T, NO

EXAMPLES:

YES, YES

I HAVE NO MONEY.

I HAVEN'T ANY FRIENDS.

NO, NO

I DON'T GOT NO MONEY

I NEVER HAVE NO FRIENDS

THAT WAS EASY, WHAT'S NEXT: HOW ABOUT THIS:

NEITHER GOES WITH NOR

EITHER GOES WITH OR

EXAMPLES: EITHER HE GOES OR I GO.

NEITHER JOHN NOR JUDY KNEW THE ANSWER.

NOW LET'S CONSIDER VERB TENSE (MEANING IS IT HAPPENING NOW, IN THE FUTURE, OR YESTERDAY) YOU SHOULON'T SWITCH BACK AND FORTH IN SENTENCES:

HE RAN AND WALKS. **UGH!** SHOULD BE: HE RAN AND WALKED.

(RAN: ALREADY DID; WALKS: IS DOING; WALKED: ALREADY DID)

HE RUNS AND WALKS,

(RUNS: IS DOING; WALKS: IS DOING)

HE WILL GO AND DONE IT. **UGH!** SHOULD BE: HE WILL GO AND WILL DO IT.

(WILL GO: FUTURE ACTION; DONE: ALREADY DID; WILL GO: FUTURE ACTION; WILL DO: FUTURE ACTION)

THEY WENT TO THE STORE AND BUY IT. **UGH!** SHOULD BE: THEY WENT TO THE STORE AND BOUGHT IT.

(WENT: ALREADY DID; BUY: PRESENT; WENT: ALREADY DID; BOUGHT: ALREADY DID)

THEY GO TO THE STORE AND BUY IT.

(GO: PRESENT; BUY: PRESENT)

WOULD YOU BELIEVE, COULD YOU POSSIBLY KNOW, ISN'T IT WONDERFUL, CAN YOU CONCEIVE OF THE IDEA ... ONLY ONE MORE MAJOR GRAMMATICAL IDEA, YES JUST ONE (1) MORE IDEA, ONE MORE TOPIC ... IT IS:

BEING TOO WORDY !!

SOME MORE COMMON EXAMPLES,

I LIKE, AM VERY FOND OF, FEEL FAVORABLY TOWARD CHOCOLATE. **BETTER:** I LIKE CHOCOLATE.

YESTERDAY, OR WAS IT THE DAY BEFORE, NO IT WAS YESTERDAY, I WENT BOATING.
BETTER: YESTERDAY I WENT BOATING.

FRANKLY, QUITE HONESTLY, TO TELL THE TRUTH I DON'T LIKE HER. **BETTER:** FRANKLY, I DON'T LIKE HER.

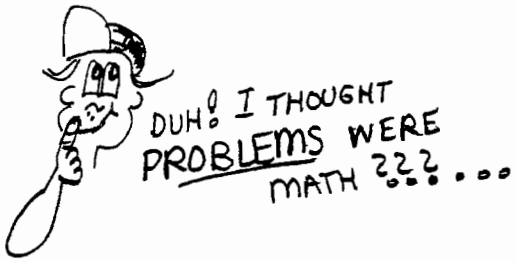
SO LET'S SUM UP THE MAIN GRAMMAR IDEAS:

1. NUMBERS OF SUBJECT & VERB REPRESENTATION SHOULD AGREE.
2. "TO" FOR GOING SOMEWHERE; "TOO" FOR ALSO OR A LOT
3. VERBS SHOULD AGREE WITH EACH OTHER IN SENTENCES
4. ONLY ONE NO WORD PER SENTENCE
5. THE "TENSES" (WHEN THE ACTION IS TAKING PLACE) SHOULD AGREE WITH EACH OTHER.
6. DON'T USE EXCESSIVE WORDS.

CORRECT EXAMPLES:

1. HE IS WELL. THEY ARE WELL
2. I AM GOING TO THE STORE.
   IT IS TOO BAD.
3. I AM SINGING, SEWING, AND COOKING.
4. I HAVEN'T HEARD A WORD YOU'VE SAID.
5. I AM GOING SHOPPING AND I AM BUYING CANDY.
6. IT IS A GOOD IDEA TO STATE THINGS SIMPLY.

THESE NUMBERS SHOW EXAMPLES OF THE SAME NUMBERED ONES DIRECTLY ABOVE.



IDENTIFY THE PROBLEM IN EACH SENTENCE

1. YOU CAN'T IN NO WAY TRY TOO MANY NEW THINGS.

1.) CONTAINS TWO NO WORDS — CAN'T AND NO.

2. I LIKE TO TRY NEW THINGS FOR THE REASON THAT SIMPLY STATED LIKE IT MAKES LIFE MORE INTERESTING IF YOU KNOW WHAT I MEAN.

2.) WORDY

3. YESTERDAY I WENT BIKING, SWIMMING, AND RUN.

3.) VERB ENDINGS AREN'T THE SAME

4. MARY IS SWEET BUT HER SISTERS IS MEAN.

4) SISTERS IS MORE THAN ONE SO NEED TO USE ARE WITH IT.

5. YOU CAN'T READ TO MUCH.

5.) TO MEANS A LOT - SHOULD BE TOO

6. TODAY I AM IMPROVING MY CONCEPT OF MYSELF BY LEARNED SOMETHING NEW.

6.) LEARNED MEANS IT HAPPENED IN THE PAST & AM IMPROVING IS PRESENT. THEY SHOULD BE THE SAME

THE NEXT EXCITING TOPIC IS (ARE YOU READY FOR THIS?) PUNCTUATION!

SOME OF YOU, I KNOW, HAVE BARELY BEEN ABLE TO CONTAIN YOURSELVES IN ANTICIPATION OF THIS FAVORITE ENGLISH SECTION!

QUOTATION MARKS & CAPITALS:

(CAPITAL ON FIRST WORD OF QUOTE WHEREVER IT IS IN THE SENTENCE.)

1. John said, "Cars are swell."
2. "Cars are swell," said John. (no capital)
3. "Cars," said John, "are swell." (no capital.)

6.) THAT SUMS UP QUOTES AND CAPITALS AND WHERE COMMAS GO.

EXPLANATIONS: #1. John said, "Cars are swell."

Ⓐ Commas before starting quote, to set it apart.

Ⓑ Capitalize first word of quote.

#2. "Cars are swell," said John.

Ⓐ Capitalize first word of quote.

Ⓑ Comma after quote to set it apart. (said not capitalized because its an ordinary word after a quote)

#3. "Cars," said John, "are swell."

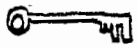
Ⓐ Capitalize first word of quote - CARS, <u>are</u> is not capitalized because it is a <u>continuation</u> of the quote sentence, not the first word.

Ⓑ Comma after first part of quote and before second part to set quote apart.

OTHER TID-BITS:

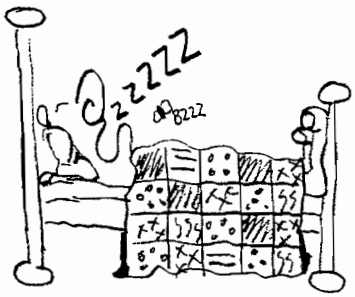
① NAMES OF SPECIFIC PLACES ARE CAPITALIZED - LIKE: NORTHWEST COMMUNITY COLLEGE, BUT IF THE WORD "COLLEGE" APPEARED BY ITSELF IT WOULDN'T BE.

② Directions aren't capitalized (north, south, east, west) unless its a SPECIFIC NAME.

SPECIFIC IS THE KEY  , LIKE DR. MICHAEL T. BROKENBONE AND MICHAEL IS A DOCTOR ← NO CAPITAL.

CAPITALIZE AND PUNCTUATE THESE FEW:

① GO AND GET SOME MILK JOHN DEMANDED	1. "GO..., MILK," JOHN DEMANDED.
② IF YOU WANT TO BE TRULY SUCCESSFUL MARY COMMENTED THEN COMPETE ONLY WITH YOURSELF	2. "IF... SUCCESSFUL," MARY COMMENTED, "THEN... YOURSELF."
③ FRED REPLIED YOU HAVE DONE AN EXCELLENT PIECE OF WRITING.	3. FRED REPLIED, "YOU... WRITING."
7.) ④ I LIVE ON THE SOUTH SIDE OF THE STREET, IT IS VINEYARD AVENUE.	4. ONLY CAPITALS: VINYARD AVENUE



NOW YOU CAN REST FOR A MINUTE WHILE WE CONSIDER ANOTHER TOPIC...

A HORRIBLE AND DREADED TOPIC...

IT PUTS FEAR INTO THE HEARTS OF MEN...

FAILURE

I THINK WE SHOULD RENAME IT. HOW ABOUT INSTEAD OF SAYING, "I FAILED" USE ONE OF THESE ALTERNATIVES:

1) I HAD AN OUTCOME IN MY MIND BUT A TWIST IN THIS STORY WAS A SURPRISE ENDING!
2) I THOUGHT I WOULD BE COMPLETED TODAY BUT IT WILL TAKE LONGER.
3) I DID WELL FOR THE INFORMATION I HAD, NOW I MUST ADD SOME MORE.

PLEASE STRIKE THE WORD "FAILURE" FROM YOUR VOCABULARY. I REMEMBER AN EXAMPLE OF SOME RESEARCHERS GOING TO A GREAT SCIENTIST AND SAYING, "WE HAVE FAILED, WE TRIED IT 500 DIFFERENT WAYS WITH NO SUCCESS." THE GREAT SCIENTIST REPLIED, "YOU HAVE NOT FAILED, YOU NOW KNOW 500 THINGS THAT DON'T WORK." LET US DEVELOP THAT ATTITUDE! LET US NOT "BEAT-UP" OURSELVES SAYING, "I'm NO GOOD, I'm A FAILURE, I'LL NEVER DO ANYTHING." LET US INSTEAD SAY, "ALRIGHT! I'm MAKING PROGRESS, I'm LEARNING, I'm MOVING FORWARD, I'm DOING SOMETHING, I'M TRYING!"

WHAT IF A BABY TRIED TO TAKE A STEP, FELL OVER, THEN SAT BACK DOWN AND THOUGHT, "WELL, I'm A FLOP, I'LL NEVER TRY THAT AGAIN!" NONE OF US WOULD BE WALKING, THAT'S A CINCH! A BABY LEARNS SO MUCH IN THE FIRST FEW YEARS BECAUSE IT IS NOT AFRAID TO TRY... IT FOCUSES ON WHAT IT WANTS TO ACCOMPLISH NOT ON WHAT OTHERS MIGHT THINK ABOUT ITS ROUTE TO ARRIVE AT THE GOAL. THINK ABOUT, FOCUS ON, ETCH DEEPLY IN YOUR MIND YOUR GOALS AND THINK ON THEM, NOT ON WHAT MIGHT HAPPEN ON THE WAY THERE. THINK ABOUT THE GOAL AND DISCARD NEGATIVE THOUGHTS THAT CREEP IN!

OKAY, ALRIGHT: I'm GOING TO GET MY GED!!

PARAGRAPHS: What makes up a good paragraph?

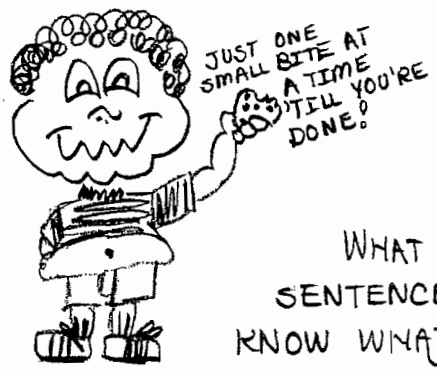
① A topic sentence: tells you what the thing is about!
② All other sentences should be about that topic.

UH! That's about it.

THAT'S IT??? ...

PRETTY MUCH! LET'S LOOK AT AN EXAMPLE:

①PROCRASTINATION (OR PUTTING OFF UNTIL TOMORROW) CAN BE EASILY OVERCOME BY MAKING A TASK PLEASANT ENOUGH SO WE ARE WILLING TO START. ②SUPPOSE I HAVE TO WRITE A GED SELF TEACHING MANUAL. ③IF I THINK OF THE WHOLE THING AT ONCE, I AM JUST OVERWHELMED, THE TASK IS TOO LARGE, I CANNOT GET IT DONE! ④HOWEVER, IF I BREAK IT INTO BITS, IT DOESN'T WEIGH ME DOWN, AND I KNOW I CAN DO ONE SMALL TASK. ⑤SO, I ONLY PLAN TO WORK ON EXPLAINING FRACTIONS. ⑥I CAN DO THAT ONE THING. ⑦THUS I PROCEED ONE SMALL BIT AT A TIME UNTIL IT IS ALL DONE.



THIS PARAGRAPH IS ABOUT:
① PROCRASTINATION
② EATING
③ WRITING

(ANS: ①)

WHAT WOULD HAPPEN IF ⑥ WAS THE FIRST SENTENCE? (ANS. AFTER READING IT YOU WOULDN'T KNOW WHAT THE PARAGRAPH WAS ABOUT!) THEN WHAT IF WE STUCK IN A SENTENCE LIKE, "SALLY'S DOG IS A COCKER SPANIEL NAMED WAFFLE." IT DOESN'T BELONG SINCE IT IS NOT RELATED TO THE TOPIC AT ALL! (THE "TOPIC" SENTENCE DOES NOT HAVE TO BE THE FIRST SENTENCE, BUT YOU SHOULDN'T HAVE TO GUESS WHAT THE PARAGRAPH'S ABOUT EITHER! ALL THE OTHER PREVIOUSLY DISCUSSED "SENTENCE" RULES WOULD APPLY TO THE SENTENCES IN THE PARAGRAPH ALSO.

TWO SPELLEING
TO SPELLING →

SPELLING ON THE GED MAY BE A LITTLE MORE DIFFICULT TO PREPARE FOR, SINCE, OBVIOUSLY, YOU CANNOT MEMORIZE HOW TO SPELL EVERY WORD IN THE ENGLISH LANGUAGE, AND THAT IS WHAT THEY HAVE TO CHOOSE FROM.

PERHAPS YOU COULD SCAN SOME SPELLING LISTS OF COMMONLY MISSPELLED WORDS (MOST SECRETARIES HAVE A BOOKLET) OR THE LIBRARY PROBABLY HAS SEVERAL. ALSO WHEN YOU ARE JUST "READING", WATCH FOR WORDS THAT YOU COMMONLY DON'T SPELL RIGHT.

HERE ARE A FEW RULES TO STICK IN YOUR BRAIN:

1. "I" BEFORE "E" EXCEPT AFTER "C" OR WHEN SOUNDED AS "A" IN NEIGHBOR & WEIGH. (RECEIVE, piece)

2. USUALLY DOUBLE LAST LETTER BEFORE ADDING ENDINGS.
   RUN, RUNNING; SWIM, SWIMMING.

IF SPELLING IS NOT YOUR "THING" DON'T SWEAT! REMEMBER, YOU ONLY HAVE TO GET ½ THE ANSWERS RIGHT SO YOU'LL JUST HAVE TO DO A LITTLE BETTER IN SOME OTHER PART OF THE ENGLISH...
(NO PROBLEM!!!)

WELL, THAT PRETTY MUCH WRAPS UP THE ENGLISH SECTION!

READING

AAWW

SCIENCE

SOCIAL STUDIES

ECONOMICS PSYCHOLOGY HISTORY

THE GED IS DIVIDED INTO FIVE TESTS: ENGLISH (WHICH YOU JUST COVERED), SCIENCE, SOCIAL STUDIES, READING, AND MATH.

AS YOU SAW BY THE TITLE PAGE THIS SECTION COVERS SOCIAL STUDIES, SCIENCE, AND READING. HOW CAN THAT BE YOU WONDER... WELL, THE ESSENTIAL ELEMENT OF ALL THREE IS READING!!!

THERE ARE SOME FACT QUESTIONS: HISTORY, SCIENCE, AND CURRENT EVENTS, BUT MOSTLY YOU READ AND GET QUESTIONED ABOUT IT. AND IT'S A GOOD THING TOO!! IT WOULD BE A LITTLE DIFFICULT TO LEARN ABOUT EVERY SCIENCE & SOCIAL STUDIES TOPIC!!

THE TWO TYPES OF QUESTIONS ABOUT THE READING PASSAGES ARE: (1) WHAT DOES IT SAY AND (2) WHAT DOES IT INFER (IMPLY) (OR IN OTHER WORDS WHAT CONCLUSION CAN YOU DRAW FROM IT.) KEEP THOSE STRAIGHT! IF THE QUESTION ASKS YOU FOR AN "INFERENCE" DON'T PICK AN ANSWER THAT STATES WORD FOR WORD SOMETHING FROM THE PARAGRAPHS!

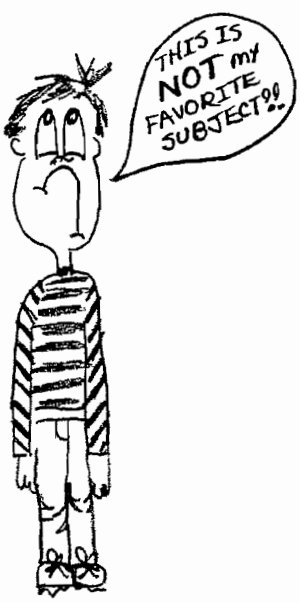
YOU MUST READ AND THINK... TRY AND UNDERSTAND WHAT IT'S SAYING. PRACTICE READING THINGS AND THEN SEE IF YOU CAN SUMMARIZE THEM IN YOUR OWN WORDS. USE THE NEWSPAPER, READ DIFFERENT ARTICLES, ESPECIALLY ONES YOU'RE NOT INTERESTED IN BECAUSE THAT USUALLY MAKES THEM HARDER TO UNDERSTAND ONLY BECAUSE YOUR MIND WANDERS...

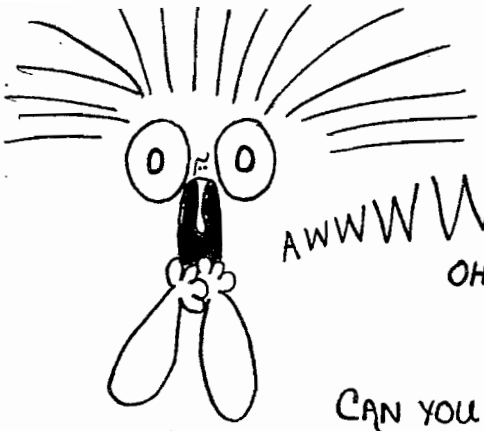
SCIENCE, SOCIAL STUDIES, READING PREPARATION:
1. READ ANYTHING
2. SUMMARIZE IN MY OWN WORDS
3. DO ARTICLES THAT DON'T INTEREST ME!

HEY!! — HAS ANYBODY SEEN MY MIND — IT WANDERED OFF!!

THAT'S IT! PRACTICE READING AND ABSORBING WHAT IT SAYS... THERE ARE NOT ENOUGH FACT QUESTIONS TO DESTROY YOUR SCORE, EVEN IF YOU MISSED THEM ALL IF YOU DO WELL ON THE READING IN ALL THREE SUBJECT AREAS.

Things About Math





AWWWW FRACTIONS

OH, YOU SILLY GOOSE  THEY'RE NOT HARD—

CAN YOU ADD? LOOK ☞ What is $1+2=?$ You KNOW IT IS 3. WELL THEN, YOU CAN ADD $\frac{1}{4}+\frac{2}{4}$. IT IS $\frac{3}{4}$. ALL YOU DO IS ADD THE TOP NUMBERS TOGETHER AND LEAVE THE BOTTOM ONES ALONE AS LONG AS THEY'RE THE SAME.

TRY SOME MORE: $\frac{1}{3}+\frac{1}{3}=?$ ANS: $\frac{(1+1)}{\text{TOP NUMBERS}}=\frac{2}{3}$

$\frac{3}{6}+\frac{2}{6}=?$ ANS: $\frac{(3+2)}{\text{TOP NUMBERS}}=\frac{5}{6}$

$\frac{4}{12}+\frac{3}{12}=?$ ANS: $\frac{(4+3)}{\text{TOP NUMBERS}}=\frac{7}{12}$

OH WOW! THAT'S NOT TOO HARD... WHAT ABOUT SUBTRACTING?

RIGHT! $\frac{6}{7}-\frac{5}{7}=?$ ANS: 6-5 (TOP NUMBERS) $=\frac{1}{7}$

$\frac{7}{11}-\frac{5}{11}=?$ ANS: (7-5) TOP NUMBERS $=\frac{2}{11}$

$\frac{12}{13}-\frac{7}{13}=?$ ANS: (12-7) TOP NUMBERS $=\frac{5}{13}$

NAW: EWE  (WHOOPS, WRONG U)

YOU JUST MULTIPLY TOP TIMES TOP AND BOTTOM TIMES BOTTOM.

LIKE THIS: $\frac{2}{3}\times\frac{4}{7}=?$ $\begin{matrix}(2\times4)\text{ TOP NUMBERS}=8\\(3\times7)\text{ BOTTOM NUMBERS}=21\end{matrix}\Big\}$ ANS: $\frac{8}{21}$

HERE ARE SOME MORE: $\frac{1}{2}\times\frac{5}{7}=\frac{(1\times5)=5}{(2\times7)=14}$ ANS: $\frac{5}{14}$

$\frac{1}{7}\times\frac{3}{2}=\frac{(1\times3)=3}{(7\times2)=14}$ ANS: $\frac{3}{14}$

DUH-EXCUSE ME PLEASE- WHAT ABOUT DIVISION??? OH YOU'LL LIKE THAT TOO! YOU ALWAYS FOLLOW THE SAME PATTERN (EVEN IF IT DOESN'T MAKE SENSE)... YOU LEAVE THE FIRST NUMBER ALONE, AND CHANGE THE ORDER OF THE SECOND NUMBER, THEN JUST MULTIPLY THE FRACTION.

LEAVE ME ALONE, YOU BRUTE

$\frac{3}{4}\div\frac{1}{2}$... I'D RATHER BE UPSIDE DOWN $=\frac{3}{4}\times\frac{2}{1}=\frac{(3\times2)}{(4\times1)}=\frac{6}{4}$

$\frac{2}{3}\div\frac{1}{4}=\frac{2}{3}$ (SAME) $\times\frac{4}{1}$ (TOP ON BOTTOM, BOTTOM ON TOP)

$\frac{2}{3}\times\frac{4}{1}=\frac{(2\times4)}{(3\times1)}=\frac{8}{3}$

NOW TRY YOUR HAND AT WHAT YOU HAVE SO FAR...

1. $\frac{1}{32} + \frac{4}{32} = ?$

2. $\frac{1}{53} + \frac{6}{53} = ?$

3. $\frac{12}{47} + \frac{9}{47} = ?$

4. $\frac{7}{17} - \frac{5}{17} = ?$

5. $\frac{9}{21} - \frac{5}{21} = ?$

6. $\frac{23}{152} - \frac{2}{152} = ?$

7. $\frac{2}{4} \times \frac{3}{2} = ?$

8. $\frac{1}{3} \times \frac{1}{6} = ?$

9. $\frac{2}{3} \times \frac{2}{3} = ?$

10. $\frac{1}{12} \times \frac{1}{12} = ?$

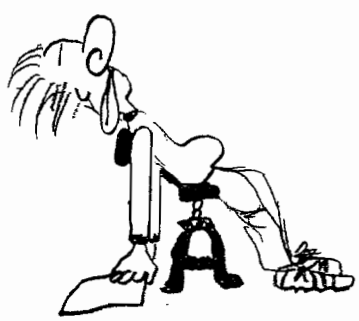
11. $\frac{4}{1} \times \frac{2}{3} = ?$

12. $\frac{1}{4} \div \frac{1}{2} = ?$

13. $\frac{1}{3} \div \frac{2}{3} = ?$

14. $\frac{4}{7} \div \frac{1}{7} = ?$

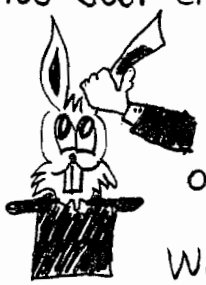
16. $\frac{5}{21} \div \frac{2}{19} = ?$



YOUR ANSWER	THE SAME AS YOUR ANSWER I'LL BET...
	$1+4 = \frac{5}{32}$
	$1+6 = \frac{7}{53}$
	$12+9 = \frac{21}{47}$
	$7-5 = \frac{2}{17}$
	$9-5 = \frac{4}{21}$
	$23-2 = \frac{21}{152}$
	$\frac{(2\times3)}{(4\times2)} = \frac{6}{8}$
	$\frac{(1\times1)}{(3\times6)} = \frac{1}{18}$
	$\frac{(2\times2)}{(3\times3)} = \frac{4}{9}$
	$\frac{(1\times1)}{(12\times12)} = \frac{1}{144}$
	$\frac{(4\times2)}{(1\times3)} = \frac{8}{3}$
	$\frac{1}{4} \times \frac{3}{1} = \frac{1\times3}{4\times1} = \frac{3}{4}$
	$\frac{1}{3} \times \frac{3}{2} = \frac{1\times3}{3\times2} = \frac{3}{6}$
	$\frac{4}{7} \times \frac{7}{1} = \frac{4\times7}{7\times1} = \frac{28}{7}$
	$\frac{5}{21} \times \frac{19}{2} = \frac{5\times19}{21\times2} = \frac{95}{42}$

OKAY FOR THAT... BUT SOMETIMES WHEN YOU'RE ADDING (OR SUBTRACTING) THE BOTTOM NUMBERS AREN'T THE SAME ~ THEN WHAT DO YOU DO?!? HUH?? HUH?? THEN WHAT??

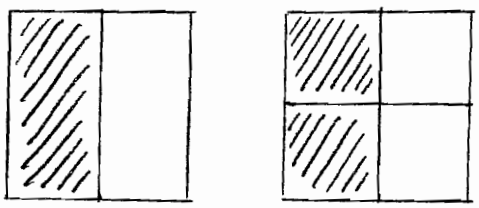
WELL, ACTUALLY, YOU JUST CHANGE THEM SO THEY ARE THE SAME...



WITH MAGIC??
POOF
LIKE PULLING A RABBIT OUT OF A HAT??

WELL, UH... NO, NOT EXACTLY LIKE THAT – BY MULTIPLYING OR DIVIDING THE NUMBERS...

UGH! I WAS AFRAID IT WAS GOING TO BE WORK! OH IT'S NOT THAT BAD... TAKE A "2" AND A "4" FOR EXAMPLE ($\frac{1}{2}+\frac{1}{4}$) WHAT CAN YOU MULTIPLY TIMES "2" TO GET "4"? HOW ABOUT "2"... $2\times2=4$. THERE, THE ONLY REALLY TOUGH PART IS DECIDING WHAT NUMBER TO USE TO MULTIPLY. IF YOU HAVE A FRACTION, $\frac{1}{2}$, AND YOU WANT THE BOTTOM NUMBER TO BE FOUR (4) ALL YOU DO IS MULTIPLY BY "2". THEN YOU ALSO HAVE TO MULTIPLY THE TOP NUMBER BY "2" OR THE FRACTION WON'T BE THE SAME NUMBER AS IT WAS.



$\frac{1}{2}$ = EQUALS = $\frac{2}{4}$

$\frac{1}{2}+\frac{1}{4}$

HMM NOT THE SAME AS 4 → NEED TO CHANGE.

$\frac{1}{2}\times2=4$ AND WHATEVER I DO TO THE BOTTOM NUMBER I ALSO HAVE TO DO TO THE TOP...

$\frac{1}{2}\times\frac{2}{2}=\frac{2}{4}$ AHA!

NOW I CAN FINISH THE PROBLEM USING $\frac{2}{4}$ INSTEAD OF $\frac{1}{2}$. $\frac{2}{4}+\frac{1}{4}=\frac{3}{4}$

TRY ANOTHER ONE: $\frac{1}{3}+\frac{1}{6}$

OOOOH-BAD NEWS – HMM, $3\times2=6$, SO IF I MULTIPLY THE BOTTOM NUMBER BY 2 I'LL HAVE A 6, BUT I ALSO HAVE TO MULTIPLY THE TOP NUMBER BY 2, BECAUSE THAT'S THE LAW!

$\frac{1}{3}=\frac{1\times2}{3\times2}=\frac{2}{6}$

SO I USE $\frac{2}{6}$ INSTEAD OF $\frac{1}{3}$: $\frac{2}{6}+\frac{1}{6}=\frac{3}{6}$

WHOA THERE PARDNER--- I SAID WHOA!!!

LET ME MAKE SURE I GOT THE IDEA ...

DIRECTIONS: CHANGE THE FIRST FRACTION SO THAT ITS BOTTOM NUMBER IS THE SAME AS THE BOTTOM NUMBER IN THE SECOND FRACTION.

Cover up these answers when you're doing the problems.

1. $\frac{2}{3} + \frac{1}{6}$ $\quad \frac{2}{3} = \frac{2\times2}{3\times2} = \frac{4}{6}$ so $\frac{4}{6}+\frac{1}{6}$

2. $\frac{1}{4} + \frac{1}{8}$ $\quad \frac{1}{4} = \frac{1}{4}\times\frac{2}{2} = \frac{2}{8}$ so $\frac{2}{8}+\frac{1}{8}$

3. $\frac{1}{3} + \frac{1}{12}$ $\quad \frac{1}{3} = \frac{1}{3}\times\frac{4}{4} = \frac{4}{12}$ so $\frac{4}{12}+\frac{1}{12}$

4. $\frac{1}{6} + \frac{1}{24}$ $\quad \frac{1}{6} = \frac{1}{6}\times\frac{4}{4} = \frac{4}{24}$ so $\frac{4}{24}+\frac{1}{24}$

ALWAYS DO THE SAME THING TO TOP NUMBER & BOTTOM NUMBER

YUP- I'VE GOT IT!!! NOW SUPPOSE YOU CAN'T JUST MULTIPLY THE FIRST BOTTOM NUMBER BY SOMETHING THAT GIVES YOU THE SAME NUMBER AS THE OTHER BOTTOM NUMBER. TAKE $\frac{1}{9}+\frac{1}{11}$ FOR EXAMPLE ~ YOU CAN'T MULTIPLY 9 BY SOMETHING TO GET 11, RIGHT? YEAH! SO ALL YOU DO IS CHANGE BOTH BOTTOM NUMBERS BY MULTIPLYING EACH ONE TIMES THE OTHER

SEE ↓

$$\frac{1}{9} + \frac{1}{11} = \frac{1\times11}{9\times11} + \frac{1\times9}{11\times9}$$

THAT MAKES BOTH BOTTOM NUMBERS THE SAME: 99

$$\frac{11}{99} + \frac{9}{99}$$

IS THAT SWELL OR IS THAT SWELL??? THEN YOU JUST ADD LIKE ALWAYS: $\frac{11}{99} + \frac{9}{99} = \frac{11+9}{99} = \frac{20}{99}$

ONE MORE ↓ $\frac{3}{7} + \frac{2}{9}$

$$\frac{3\times9}{7\times9} + \frac{2\times7}{9\times7}$$

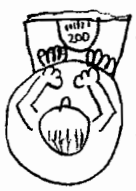
$$\frac{27}{63} + \frac{14}{63} = \frac{41}{63}$$

NOW I KNOW ALL ABOUT FRACTIONS ..... WELL~ CLOSE! JUST ONE OR TWO MORE ITTY~BITTY POINTS → ← NOT THAT KIND OF POINT!

(1) REDUCING FRACTIONS (WHY? ARE THEY OVERWEIGHT?)

LET'S WORK WITH AN EXAMPLE: $\frac{2}{4}$ THIS FRACTION NEEDS REDUCED, HOW DO I KNOW THAT? ... BECAUSE I'm TALKING ABOUT REDUCING FRACTIONS AND THEREFORE IT IS LOGICAL THAT IF I PICK AN EXAMPLE IT MUST NEED REDUCED, OR "MADE SMALLER" ... (OH, HOW INFORMATIVE!!!) REMEMBER WHEN WE CHANGED THE BOTTOM NUMBERS TO MAKE THEM THE SAME AS THE OTHER BOTTOM NUMBERS WE MULTIPLIED; SO IF WE WANTED TO MAKE THEM SMALL WE WOULD DIVIDE. (JUST LIKE IF WE WERE OVERWEIGHT WE WOULD DIVIDE OURSELVES, WE CERTAINLY WOULDN'T MULTIPLY TO MAKE MORE OF US!)

BACK TO OUR EXAMPLE: $\frac{2}{4}$ WHAT NUMBER CAN I DIVIDE INTO BOTH THE TOP & BOTTOM? (REMEMBER: YOU HAVE TO ALWAYS DO THE SAME THING TO THE TOP AND THE BOTTOM (IT'S ONLY FAIR!) HOW ABOUT 2 → $\frac{2 \div 2}{4 \div 2} = \frac{1}{2}$ OKAY!!



TRY REDUCING THESE:

1. $\frac{3}{6}$
2. $\frac{2}{8}$
3. $\frac{4}{16}$
4. $\frac{5}{25}$

TOUGHEE'S:

5. $\frac{14}{21}$
6. $\frac{18}{63}$

DO THE SAME TO TOP AND BOTTOM

$\frac{3 \div 3}{6 \div 3} = \frac{1}{2}$

$\frac{2 \div 2}{8 \div 2} = \frac{1}{4}$

$\frac{4 \div 4}{16 \div 4} = \frac{1}{4}$

$\frac{5 \div 5}{25 \div 5} = \frac{1}{5}$

$\frac{14 \div 7}{21 \div 7} = \frac{2}{3}$

$\frac{18 \div 9}{63 \div 9} = \frac{2}{7}$

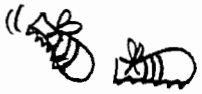
OR: $\frac{18 \div 3}{63 \div 3} = \frac{6}{21}$ THEN $\frac{6 \div 3}{21 \div 3} = \frac{2}{7}$

GOOD NEWS! YOU DON'T HAVE TO PICK THE "RIGHT" BIG NUMBER FIRST - IF 2 OR 3 WILL WORK YOU CAN JUST USE THEM AGAIN & AGAIN 'TILL YOU GET IT ALL THE WAY REDUCED, SORT OF LIKE 3 POUNDS AT A TIME INSTEAD OF 9 AT ONCE... STILL ENDS UP THE SAME - WHATEVER WORKS BEST FOR YOU!

ONE MORE EENY IDEA: WHAT TO DO WHEN THE TOP NUMBER IS BIGGER THAN THE BOTTOM NUMBER.

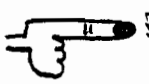
EXAMPLE: $\frac{17}{5}$

OH NO! WHAT DO I DO WITH THAT ???



STEP ONE: SEE HOW MANY TIMES THE BOTTOM NUMBER WILL GO EVENLY INTO THE TOP NUMBER.

DUH? $2\times5=10$ OR $3\times5=15$ OR $4\times5=20$



$3\times5=15$ THE WINNER THAT IS THE LARGEST AMOUNT WITHOUT GOING OVER . . . (SOUNDS LIKE A GAME SHOW!... THINK OF IT LIKE THAT AND MAYBE IT WILL BE MORE PLEASANT) SO IT GOES 3 WHOLE TIMES WITH $\frac{2}{5}$ LEFT OVER:

$\frac{17}{5} = 5\overline{)17}^{3\ R\ 2}$ $\quad\frac{15}{2}$ OR $\frac{17}{5}$: $3\times5=15$ $17-15=2$ SO $3\frac{2}{5}$

OKAY:

1. $\frac{17}{4}$
2. $\frac{12}{7}$
3. $\frac{23}{9}$
4. $\frac{41}{7}$
5. $\frac{19}{2}$

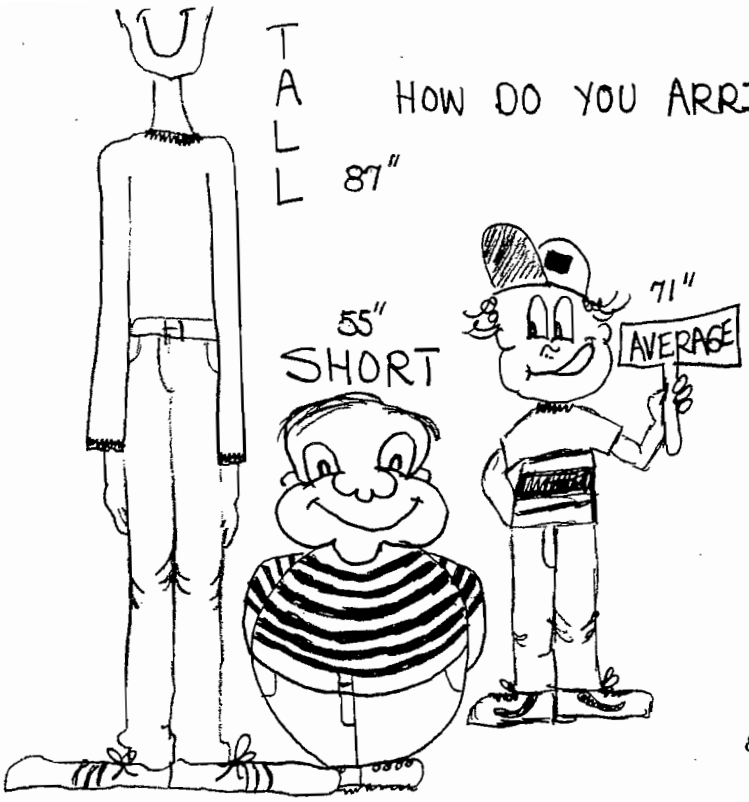
$4\overline{)17}^{4\ R\ 1}$ $\quad\frac{16}{1}$ $= 4\frac{1}{4}$

$7\overline{)12}^{1\ R\ 5}$ $\quad\frac{7}{5}$ $= 1\frac{5}{7}$

$9\overline{)23}^{2\ R\ 5}$ $\quad\frac{18}{5}$ $= 2\frac{5}{9}$

$7\overline{)41}^{5\ R\ 6}$ $\quad\frac{35}{6}$ $= 5\frac{6}{7}$

$2\overline{)19}^{9\ R\ 1}$ $\quad\frac{18}{1}$ $= 9\frac{1}{2}$



HOW DO YOU ARRIVE AT AN AVERAGE?

① ADD UP THE NUMBERS:
87 + 55 + 71

② COUNT HOW MANY NUMBERS YOU'RE ADDING UP AND DIVIDE THE ADDITION TOTAL BY THAT NUMBER:

87 + 55 + 71


= 3 NUMBERS

87 + 55 + 71 = 213 213 ÷ 3 = 71

TRY SOME MORE:
WHAT IS THE AVERAGE OF:

① 7, 11, 15, 19

7 + 11 + 15 + 19 = 52
4 numbers so divide by 4 52 ÷ 4 = 13
ANS: 13

② 20, 40, 60, 80, 100, 120

20 + 40 + 60 + 80 + 100 + 120 = 420
420 ÷ 6 = 70
ANS: 70

③ 1237, 1384, 29, 10

1237 + 1384 + 29 + 10 = 2660
2660 ÷ 4 = 665

WHAT ABOUT FINDING THE NEXT TERM (OR "NUMBER) IN A SERIES. LOOK AT THE FIRST NUMBER AND DECIDE WHAT YOU COULD DO TO IT TO GET THE SECOND NUMBER: TAKE 1, 7, 49...
WHAT CAN WE DO TO 1 TO GET THE SECOND NUMBER, 7? WE COULD ADD 6. OKAY... 1 + 6 = 7 THEN DO THE SAME THING AGAIN TO THE SECOND NUMBER & SEE IF IT GIVES YOU THE THIRD NUMBER. 7 + 6 = 13

UGH! IT DOESN'T EQUAL 49.

THAT'S OKAY JUST TRY SOMETHING ELSE.

UH... HOW ABOUT MULTIPLYING BY 7?? 1 × 7 = 7, THEN 7 × 7 = 49

HEY!! HEY!! THAT'S IT!! YOU'VE CRACKED THE CODE!! YOU'VE WON!! YOU DID IT!! HOORAH!! WHOPEE!!

NOW TRY SOME MORE →

1) 1, 6, 36, ?
What's the fourth term?

1. ANS: 1+5=6
but 6+5=11 not 36
that's not how...
1×6=6 hmm...
6×6=36 AHA!!
36×6= 216
TAH DAH!

2) 7, 9, 11, 13, ..., ?
What's the sixth term?

2) 7+2=9, 9+2=11, hey..
11+2=13, okay-13+2=
AND ?=15+2=17
(notice they don't want the number after 13 (which would be the 5th term) but the one after that.

YOU MUST BE VERY SNEAKY ON THE GED TEST BECAUSE SOMETIMES THEY'RE TRICKY AND THEY DON'T ASK YOU FOR THE FIRST ANSWER YOU'LL COME TO, BUT THE SECOND (LIKE #2 ABOVE) SO BE CAREFUL AND BE SURE AND READ CAREFULLY!!! FILL IN YOUR ANSWER AND MAKE SURE IT ANSWERS THE QUESTION.

Now-on TO Purr-scents.....% Percent.....

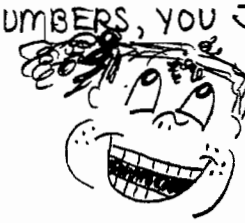
NO! NO! THAT'S THE WRONG ATTITUDE... YOU'LL HAVE A GOOD TIME, THEY'RE FUN AFTER YOU GET TO KNOW THEM.

IF YOU WANT TO WRITE DOWN A DECIMAL AS A PERCENT YOU CAN LEARN THIS:

0 - 9% = .00, 1% = .01, 2% = .02 etc to 9% = .09

10 - 99% = .10, 11% = .11, 12% = .12, 20% = .20, etc to 99% = .99

SO ONE DIGIT (OR ONE NUMBER) NUMBERS YOU JUST PUT POINT (.) ZERO (0) IN FRONT OF, 1% = POINT ZERO ONE = .01 AND TWO DIGIT (TWO NUMBER) NUMBERS, YOU JUST PUT POINT, THEN THE NUMBER, 23% = POINT 23 = .23.



EXPRESS THESE PERCENTS AS DECIMALS:

1) 6%
2) 8%
3) 42%
4) 87%

1) .06
2) .08
3) .42
4) .87

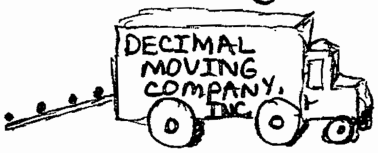
Well, just one eeny idea or two about multiplying and dividing decimals:

When a decimal is in the inside number just move it straight up:

$7\overline{)4.9} = 7\overline{)4.9} = 7\overline{)4.9}$ → .7 (49, 0)

no sweat, piece of cake 

okay: WHEN A DECIMAL IS IN THE OUTSIDE NUMBER YOU HAVE TO MOVE IT.



$.7\overline{)49}$ $7.\overline{)49}$ ← not correct because then we need to move the inside one too – (which is always on the outside in a whole number) $= 7.\overline{)49.0.}$ ← stick in a 0 to show you moved decimal over.

so we END UP WITH $7\overline{)490.} = 7\overline{)490.}$ → 70. (49, 00) ANS: 70

CROSS check:  multiply: original number divided by .7

```
  70
x .7  ← one decimal in multiplication problem - so one in answer
 490 = 49.0 = 49 correct
```

[ASIDE: When multiplying decimals in answer are total number in both numbers you're multiplying: .301 × .47 = ?]

```
   .301   3 decimals
 x  .47   2 decimals
   2107   5 total
  12040
 .14147
  54321
```

ANS: .14147

IN MULTIPLYING OR DIVIDING IF THERE ARE NOT ENOUGH NUMBERS TO MOVE THE DECIMALS, ADD ZEROS.

NOW YOU TRY SOME:

① $.32\overline{)64}$

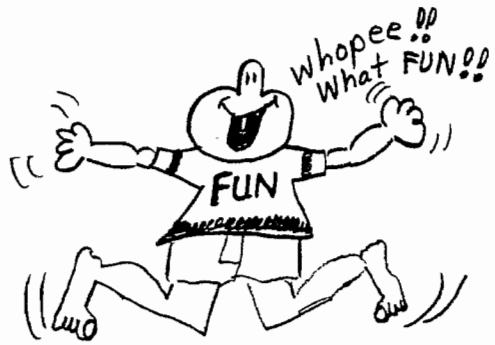
② $.07\overline{)777}$

③ $3.2\overline{)28.8}$

④ $23 \times .7$

⑤ $23.1 \times .22$

⑥ $10.1 \times .002$



① $.32\overline{)64}$

$32.\overline{)64.00.}$

$32\overline{)6400}$ (200)

64

ANS: 200

② $.07\overline{)777}$

$07.\overline{)777.00.}$

$7\overline{)77700.}$ (11100)

ANS: 11,100

③ $3.2\overline{)28.8}$

$32.\overline{)28.8.}$

$32\overline{)288.}$ (9)

288

0

ANS: 9

④ $23 \times .7$

$23 \times .7$ ← one decimal

161 ← one decimal

ANS: 16.1

⑤ $23.1 \times .22$

23.1 ← 1 decimal

.22 ← 2 decimals

462

4620 — 3 decimals total

5.082 ← 3 decimals

⑥ $10.1 \times .002$

10.1 ← 1 decimal

.002 ← 3 decimals

202 — 4 decimals total

↓ need to add zeros

202

3 2 1

.0202

4 3 2 1

↑ add zero

ANS: .0202

SUPPOSE YOU WERE GIVEN THE FRACTION $\frac{3}{8}$ AND TOLD TO EXPRESS IT AS A DECIMAL. JUST REMEMBER THE LINE → $\frac{3}{8}$ MEANS DIVIDE (÷). THE FRACTION MEANS 3 DIVIDED BY 8.

SO YOU JUST DIVIDE: $3 \div 8 \rightarrow 8\overline{)3} \rightarrow 8\overline{)3.00}$ ← add zeros to keep dividing

$.375$ R $\frac{4}{8}$ (or R $\frac{1}{2}$ after reducing)

24

60

56

4

see math page 8

SO .37 AS A PERCENT IS 37% + THE REMAINDER

SO THE ANSWER IS 37½%

TRY THESE — EXPRESS AS PERCENT:

1) ½

2) ¼

3) ⅙

1) $2\overline{)1.00}$ $.50$ 10 00 .50 = 50%

2) $4\overline{)1.00}$ $.25$ 8 20 20 0 .25 = 25%

3) $6\overline{)1.00}$ $.16$ R $\frac{4}{6}$ 6 40 36 4 $\frac{4}{6} \div 2 = \frac{2}{3}$ .16 = 16% $16\frac{2}{3}$%

(OR YOU COULD KEEP DIVIDING AND GET 16.66%)

NOW, SUPPOSE YOU WANT TO KNOW WHAT 3% OF SOME NUMBER IS ~ LIKE, WHAT IS 3% OF 57. THIS IS EASY! WHAT IS 3% EXPRESSED AS A DECIMAL? POINT ZERO THREE → .03. JUST MULTIPLY 57 BY .03 AND YOU WILL HAVE 3% OF IT.

57 × $.03$ ← 2 decimals

1.71 ← 2 decimals ANS. 1.71

SO IF YOU ARE AT A SALE AND SOMETHING IS 5% OFF YOU CAN FIGURE YOUR SAVINGS. SAY IT COSTS $100.00. 5% = .05

100.00 ← 2 decimals

× $.05$ ← 2 decimals

5.0000 (or 5.00) 4 TOTAL (4 3 2 1)

SO YOU SAVE $5.00

100.00 − 5.00 = $95.00

YOUR COST IS $95.00

[♪ NOTE: IF THE QUESTION SAYS "HOW MUCH DO YOU SAVE" ANS $5.00; BUT IF IT SAYS "WHAT IS YOUR COST" ANS. $95.00 ~ ~ REMEMBER THEY'RE SNEAKY]

11.

OF COURSE THEY COULD SAY WHAT PERCENT OF 79 IS THE NUMBER 5. JUST DIVIDE THE ~~LARGER~~ SMALLER NUMBER INTO THE ~~SMALLER~~ LARGER NUMBER (WHICH WILL GIVE YOU A DECIMAL, AND YOU KNOW HOW TO CHANGE THAT INTO A PERCENT)

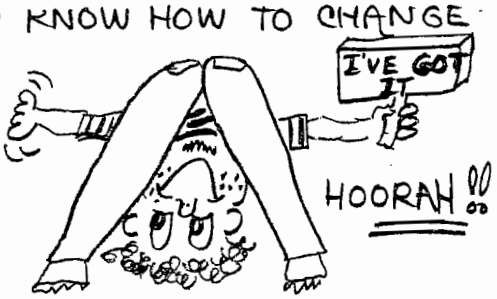
$79\overline{)5} = 79\overline{)5.00}$ (.06 R 26/79)

474

26

.06 = 6%

ANS: $6\frac{26}{79}\%$



1) EXPRESS 2/3 AS A PERCENT.

1) $3\overline{)2.0}$ (.66 R 2/3)

18

20

18

.66 = 66%

$66\frac{2}{3}\%$

2) A SALE!! 8% OFF.
YOUR ITEM COSTS $10.00.
A) WHAT DO YOU SAVE?
B) WHAT IS YOUR COST?

2) 8% = .08

10.00 ← 2 decimals

× .08 ← 2 decimals

4 total

ANS. .8000

.8000

4 3 2 1

(A) SAVE .80 (80¢)

COST = 10.00 − .80

$9.20

(B) COST 9.20

3) WHAT PERCENT OF 150 IS 50?

3.) $150\overline{)50.00}$ (.33 R 50/150)

450

500

450

50

.33 = 33%

$\frac{50 \div 50}{150 \div 50} = \frac{1}{3}$

$33\frac{1}{3}\%$

JUST IN CASE YOU NEED THIS:
TO ADD DECIMALS, JUST LINE UP THE POINTS → FREE SAMPLE:

.1 + .02 + .303 + 4.01 = ?

.1

.02

.303

+ 4.01

4.433

OR ADD ZEROS TO KEEP LINED UP

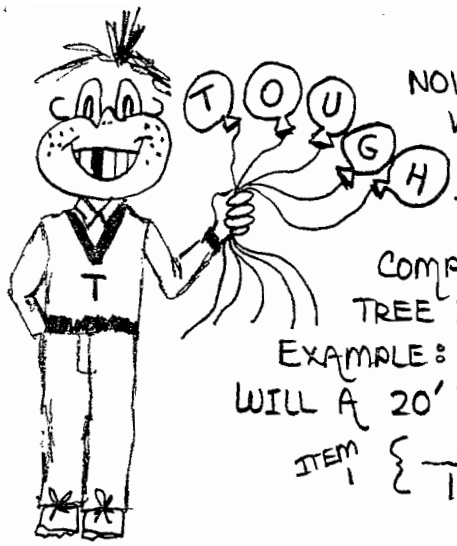
.100

.020

.303

4.010

4.433



NOW, WE HAVE A COMPLICATED BUNCH OF PROBLEMS BUT WE CAN MAKE THEM SIMPLE

THEY'RE ALL ALIKE, YOU ARE COMPARING THINGS; LIKE TREE HEIGHT TO SHADOW,

EXAMPLE: A 10' TREE CASTS A 5' SHADOW. WHAT SHADOW WILL A 20' TREE CAST?

ITEM 1 $\left\{ \frac{5'\text{SHADOW}}{10'\text{TREE}} \right.$ (1 / 3) $= \left. \frac{?\ \text{SHADOW}}{20'\text{TREE}} \right\}$ (4 / 2) ITEM 2 SAME ORDER — SHADOW ON TOP

TO FIND WHAT THE ? IS EQUAL TO, MULTIPLY ① TIMES ② AND DIVIDE BY ③. $5 \times 20 = 100 \div 10 = 10$ 10' SHADOW.

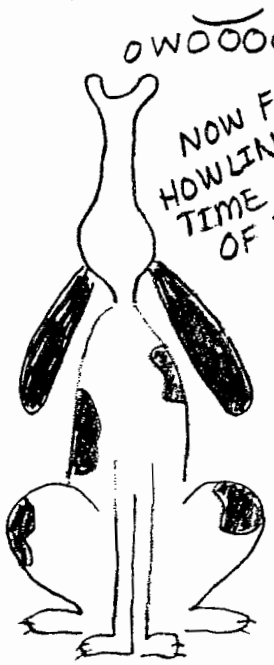
YOU'LL DO ALL THE PROBLEMS THE SAME, JUST MAKE SURE THE UNKNOWN NUMBER APPEARS IN THAT SAME PLACE.

ANOTHER EXAMPLE: A $40 ITEM NOW COSTS $35, HOW MUCH DOES A $80 ITEM COST NOW?

$\frac{\$35\ \text{COST NOW}}{\$40\ \text{ORIGINAL COST}} = \frac{?\ \text{COST NOW}}{\$80\ \text{ORIGINAL COST}}$

$35 \times 80 = 2800 \div 40 = 70$ $70

ALWAYS PUT THE ITEM YOU HAVE BOTH PIECES OF INFORMATION FOR ON THE LEFT (ARRANGING IT SO THE INFORMATION YOU'RE LOOKING FOR IN THE OTHER SET IS ON TOP)



1.) IF A CAR TRAVELS 200 MILES IN 4 HOURS. HOW MANY HOURS WILL IT TAKE TO GO 350 MILES, ASSUMING THE SAME RATE OF SPEED?

1.) $\frac{4\ \text{HOURS}}{200\ \text{MILES}} = \frac{?\ \text{HOURS}}{350\ \text{MILES}}$

$4 \times 350 = 1400 \div 200 = 7$

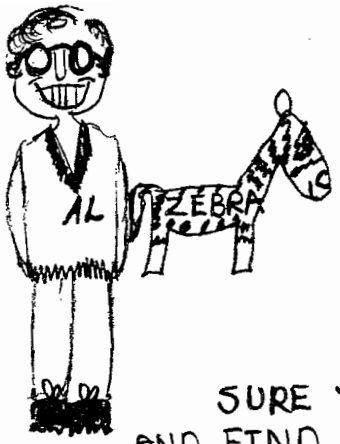
7 HOURS

2.) IT TAKES 20 GALLONS OF PAINT FOR A 200 FOOT FENCE, HOW MANY FEET WILL 35 GALLONS COVER?

2.) $\frac{200\ \text{FEET}}{20\ \text{GALLONS}} = \frac{?\ \text{FEET}}{35\ \text{GALLONS}}$

$200 \times 35 = 7000 \div 20 = 350$

350 FEET



ALZEBRA?? YES, GOOD 'OLE ALGEBRA... STOP — MUST I LEARN ALGEBRA??

OH YOU SILLY GOOF - YOU ALREADY KNOW IT! I DO??

SURE YOU DO — I'LL SHOW YOU. YOU GO TO THE STORE AND FIND "IT", THAT THING YOU NEED. YES, IT IS THERE! AND WHAT DOES IT COST? IT COSTS $25. YOU EMPTY OUT YOUR POCKET AND HAVE $20. HOW MUCH MORE MONEY DO YOU NEED TO BUY IT? $5 YOU SAY? RIGHT!!! YOU JUST SOLVED THE ALGEBRA PROBLEM $20 + X = 25$ OR $25 - 20 = X$. YOU EVEN DID TWO PROBLEMS AT ONCE! YOU JUST PROBABLY DON'T CALL IT ALGEBRA!

SO WHAT DID YOU DO IN YOUR MIND TO ARRIVE AT THE SOLUTION?

$25 - 20 =$ AMOUNT NEEDED TO BUY IT (X)

$25 - 20 = 5$ 5 = AMOUNT NEEDED TO BUT IT (X).

ALGEBRA NUMBERS CAN BE MOVED FROM ONE SIDE OF THE EQUAL SIGN TO THE OTHER, AS LONG AS YOU DO THE SAME THING TO BOTH SIDES: $1 = 1$ $25 + 1 = 1 + 25$ ← SEE IF WE ADD 25 ON BOTH SIDES & IT'S STILL EQUAL! SO IF WE HAD THAT ALGEBRA PROBLEM ABOVE $20 + X = 25$ WE WOULD WANT THE X BY ITSELF SO IT WOULD LOOK LIKE AN ORDINARY PROBLEM:

① $20 + X = 25 \rightarrow$ ② $20 + X = 25$ (−20 ON BOTH SIDES OF EQUAL SIGN)

$-20 \quad -20$

$0 + X = 5$

OR

$X = 5$ WOW!

EXPLANATION: IF YOU OVERDRAW YOUR CHECKING ACCT $1 (−1) AND THEN DEPOSIT $1 (+1) YOUR BALANCE IS 0.

TRY THESE:

1. $X + 10 = 14$

2. $14 - X = 3$ * TOUGH

3. $7 = X + 1$

① $X + 10 = 14$ Get x by itself first

$-10 \quad -10$

$X + 0 = 4$

$X = 4$ X CHECK $4 + 10 = 14$

② $14 - X = 3$ Need to have + X can't have −X

$+X \quad +X$

$14 + 0 = 3 + X$ now get x by itself

$14 = 3 + X$ X CHECK:

$-3 \quad -3$

$11 = 0 + X \quad 11 = X \quad 14 - 11 = 3$ OK ✓

③ $7 = X + 1$

$-1 \quad -1$

$6 = X + 0 \quad 6 = X \quad 7 = 6 + 1$ OK ✓

THE ONLY OTHER THING THEY DO IN ALGEBRA THAT COULD THROW YOU FOR A LOOP ℓ IS STICK LETTERS TOGETHER, XYZ, WHICH JUST MEANS TO MULTIPLY! THEY DON'T USE THE MULTIPLY SYMBOL (X) BECAUSE IT LOOKS LIKE "X" WHICH IS A LETTER THEY USE. SO 2x (WHEN X=3) MEANS 2 TIME 3 OR = 6.

IF YOU GET THE PROBLEM: WHAT DOES XYZ EQUAL WHEN X=2, Y=4, Z=7 THEN THE ANSWER IS:

$2 \times 4 \times 7 =$

$2 \times 4 = 8 \quad 8 \times 7 = 56$

$2 \times 4 \times 7 = \underline{56}$

IF YOU WANT TO BE "OFFICIAL" AND DO THE "ALGEBRA" THEN WHEN THERE'S MULTIPLYING, YOU DIVIDE (AND VICE VERSA) TO GET THE X ALONE... ONCE AGAIN ON BOTH SIDES OF THE EQUAL SIGN.

$2x = 4 \qquad \frac{2x}{2} = \frac{4}{2} \qquad (2 \div 2 = 1) \; (4 \div 2 = 2)$

$1x = 2$

$\underline{x = 2}$

IF YOU DON'T KNOW HOW TO DO AN ALGEBRA PROBLEM AND YOU ARE GIVEN A CHOICE OF ANSWERS, JUST STICK THEM BACK IN THE PROBLEM AND PICK THE ONE THAT WORKS.

LOOK: $X + 8 = 17$

ANSWERS:

Ⓐ 3
Ⓑ 7
Ⓒ 9
Ⓓ 2

Ⓐ $3+8 = 11$ not 17
Ⓑ $7+8 = 15$ not 17
Ⓒ $9+8 = \underline{17}$ BING BING DING

THIS IS NOT ALL THE MATH ON THE GED BUT IT'S MORE THAN ENOUGH TO SCORE HIGH !!

OKAY. YOU'VE GOT IT!!

NOW GO AND

TAKE THE TEST!!

" DON'T WAIT, DON'T STEW,
DON'T FRET — GO, GO, GO !!!

IT'S NOT THE END BUT

" THE BEGINNING "