



IPOD VIDEO – PARTNER ACTIVITY

YOU AND YOUR PARTNER WILL TAKE ON THE ROLES OF TWO FRIENDS WHO ARE TRYING TO FIGURE OUT IF ONE OF THEM HAS ENOUGH SPACE LEFT ON HIS/HER IPOD TO DOWNLOAD A VIDEO.

DECIDE WHO WILL BE FRIEND 1 AND FRIEND 2 AND GATHER YOUR PROPS. EACH OF YOU WILL NEED THE COMPUTER PRINTOUT OF THE GRAPH OF YOUR IPOD TO USE DURING THE DIALOGUE.

READ THROUGH THE DIALOGUE SAYING THE LINES FOR YOUR ROLE. WORK TOGETHER TO SOLVE THE PROBLEM YOU DISCUSS IN YOUR CONVERSATION.

SHARE THE RESPONSIBILITY FOR WRITING UP YOUR SOLUTION (BOTH OF YOU SHOULD DO SOME OF THE WRITING). MAKE SURE YOU CAN EXPLAIN YOUR WORK TO THE CLASS!

IPOD DIALOGUE

FRIEND 1: SO, HOW DO YOU LIKE YOUR NEW VIDEO IPOD?

FRIEND 2: I LOVE IT. IT'S SO COOL TO BE ABLE TO RECORD SHOWS FROM TV AND PLAY THEM ON MY IPOD.

I DOWNLOADED *AMERICA'S FUNNIEST HOME VIDEOS* LAST NIGHT, BUT HAVEN'T WATCHED IT YET.

FRIEND 1: YOU DID? I MISSED THAT SHOW. CAN I GET THAT VIDEO FROM YOU?

FRIEND 2: YEAH. IT TAKES UP .34 GIGABYTES, THOUGH. ARE YOU SURE YOU'VE GOT ENOUGH SPACE?

YOU'VE ALREADY GOT TONS OF VIDEOS ON THERE.

FRIEND 1: I DON'T KNOW. LET ME CHECK IT ON ITUNES. ... GOT IT. TAKE A LOOK AT THIS GRAPH.

[FRIEND 1 SHOWS HIS OR HER GRAPH TO FRIEND 2]

FRIEND 2: SEE WHAT I MEAN? HARDLY ANY FREE SPACE! IT'S GOING TO BE CLOSE. MOVE OVER.

I WANT TO PRINT MINE OUT ... THERE. LOOK AT ALL THAT FREE SPACE!

[FRIEND 2 SHOWS HIS OR HER GRAPH TO FRIEND 1]

FRIEND 1: WHAT ARE YOU WAITING FOR? YOU NEED TO DO SOME SERIOUS DOWNLOADING! ... UH-OH.

FRIEND 2: WHAT'S WRONG?

FRIEND 1: LOOK AT MY FREE SPACE. IT'S IN MEGABYTES.
HOW AM I SUPPOSED TO KNOW IF .34 GIGS WILL FIT?

FRIEND 2: HUH. GOOD QUESTION. MY FREE SPACE IS IN GIGS, BUT I HAVE 151 MEGABYTES IN OTHER. MEGABYTES MUST BE TINY—THERE ARE 151 OF THEM IN THAT LITTLE SLIVER. LOOK.

FRIEND 1: YEAH. YOUR WHOLE BAR REPRESENTS 27.89 GIGABYTES, SO YOU CAN TELL GIGABYTES ARE LARGER.

FRIEND 2: WHAT I'M WONDERING IS, WHY DON'T THEY WRITE EVERYTHING IN GIGABYTES?

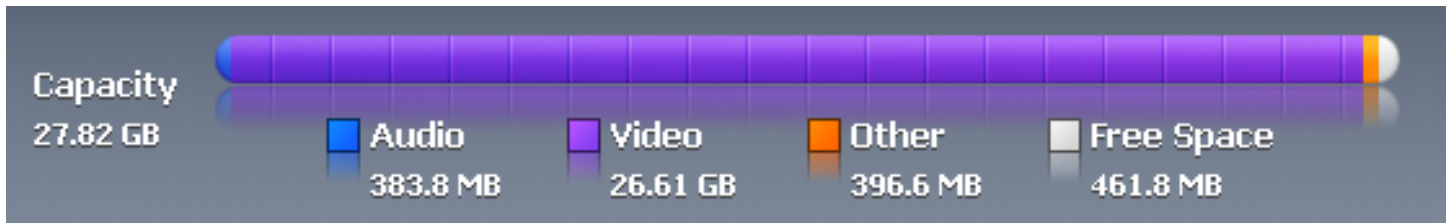
FOR SOME REASON, THEY SWITCH TO MEGABYTES.

FRIEND 2: YEAH, THAT'S WEIRD. YOUR TOTAL CAPACITY AND EVERYTHING ELSE IS IN GIGABYTES.

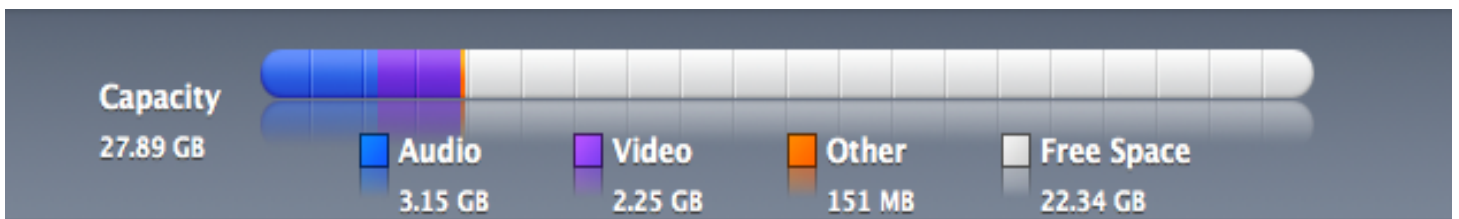
WHAT IS 151 MB IN GIGABYTES? HEY--IF WE KNEW THAT, WE'D HAVE A RELATIONSHIP.

FRIEND 1: HEY, YOU'RE RIGHT. THEN YOU COULD FIGURE OUT IF THE VIDEO WILL FIT.

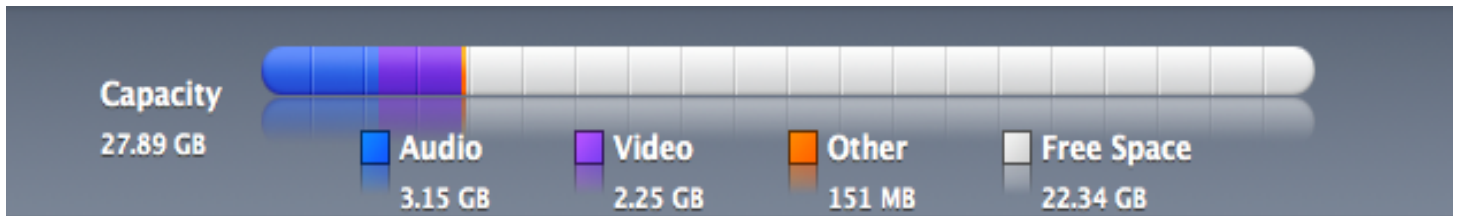
IPOD GRAPH FOR FRIEND 1:



IPOD GRAPH FOR FRIEND 2:



SOLUTION:



USING THE IPOD GRAPH FOR FRIEND 2 (ABOVE), WE CAN WRITE AND SOLVE AN EQUATION, THEN APPLY PROPORTIONAL REASONING:

CAPACITY = AUDIO + VIDEO + OTHER + FREE SPACE

27.89 GB = 3.15 GB + 2.25 GB + OTHER + 22.34 GB → OTHER = .15 GB

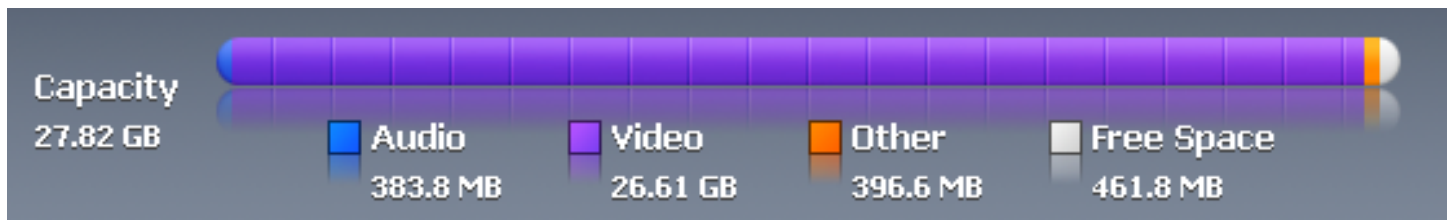
THIS MEANS 151 MB = .15 GB.

AFTER DOUBLING: 302 MB = .30 GB

AFTER TRIPLING: 453 MB = .45 GB

SINCE THE VIDEO IS .34 GB, IT IS BETWEEN 302 MB AND 453 MB IN SIZE.

FRIEND 1 HAS 461.8 MB OF FREE SPACE (SEE GRAPH BELOW), SO THE VIDEO WILL FIT.



NOTE:

THE RELATIONSHIP 151 MB = .15 GB IS APPROXIMATE DUE TO DECIMAL ROUNDING ERROR, BUT THIS DOES NOT INTERFERE WITH THE SOLUTION TO THE PROBLEM.

TO BE EXACT, WE MUST WRITE: 151 MB = .151 GB, SINCE 1 GB = 1,000 MB (IN SOME CIRCLES!)

INTERESTINGLY, THERE IS A DEBATE ABOUT WHETHER OR NOT THE GIGA- AND MEGA-PREFIXES BELONGING TO THE METRIC SYSTEM SHOULD BE USED IN COUNTING UP BYTES. IN COMPUTER CIRCLES, 1 GB = 2^{10} MB = 1,024 MB.

SEE [HTTP://EN.WIKIPEDIA.ORG/WIKI/GIGABYTE](http://en.wikipedia.org/wiki/Gigabyte) FOR MORE INFORMATION.