

JANUARY 15, 2026, STAT285

INSTRUCTOR: WITH EACH - THE SUM FROM 1 TO N.  
PLUS NEW PLUS NEW PLUS NEW AND THEN TIMES. THAT'S -  
THE OTHER ONE IS - S SQUARED PLUS C SQUARED. THIS ONE  
- BY THE END I DON'T HAVE YOUR UNDERGRADUATE CAREER  
YOU WILL BE UNDER - WHICH THIS IS - THIS IS SOMETHING  
OBVIOUS TO YOU. HAVE YOU EVER SEEN IT BEFORE? YES.  
ALL RIGHT. B MINUS C DOLLAR SIGN. 2AB. NOW IT'S  
JUST -

CALCULATE THE SAME THING. YOU SEE THEY ARE THE  
SAME THING. SO THAT MINUS THIS. BRING THE  
EXPECTATION IN. THIS IS THE SIDE YOU WANT. SIDE  
DEMO; RIGHT?. THE SIDE IS THE SQUARED OF THE B. IT'S  
EVERY X HAS A NAME. T A VARIANT OF THE SQUARE. SO  
IT'S A SECOND. IT'S THE VARIABLES, PLUS SQUARE OF THE  
MEAN. DO YOU UNDERSTAND? TIMES IT AND MAKE SURE YOU  
LOOK AT THIS SECTION. YOU WILL FIND THE MATERIAL  
STUDY. THIS IS DISCUSS GENERAL - AND WE WILL  
SPECIALIZE THIS SOLUTION. NOW AS WE HAVE - FIRST ONE,  
SECOND ONE. OKAY. LET'S DO THE SAME THING WITH  
TIMES. THIS - THE VARIABLES ARE MEANS. IT'S THIS -  
WE HAVE X PLUS Yes. IT'S NEW. YOU KNOW THAT. THIS  
IS THE MEAN. SO THE ONLY THING HERE IS THAT. AT THE  
END MINUS ONE. THE HE OTHER ONE ALSO KNOW WHICH ONE  
ARE - YOU WOULD PREFER THE FIRST ONE BECAUSE FLUCTUATE

THEY ARE LESS THAN THE SECOND. ALL RIGHT. NOW HOW DO WE - THE OTHER METHOD IS - SIMPLE THING TO DO IS EXPERIENCE IS BALANCE. VERY SMALL. CHOOSE ONE AT BEST, THE SMALL - SO THE NEXT TOPIC. THIS IS AVAILABLE. AND DEPENDING ON THAT - THIS CASE IS ACTUALLY - THERE HAS NOT VARIANCE. THE NEXT - LET'S CONSIDER TWO MASS INTEGERS. ON THE BIGGER ONE - A LITTLE TWO THAT. MOST ARE ON THE NEXT - THE RIGHT. THIS IS THE FINAL ONE. COME UP - THIS IS ONE PACK. COME UP ANOTHER INTEGER; RIGHT? SEE LOOK AT BOTH OF THE BEARINGS, THE DAMAGE IS THIS. THE DEFINITION OF THE BEARINGS; RIGHT? THIS IS THE DEFINITION OF THE BEARINGS; RIGHT? THIS IS THE DEFINITION OF THE BEARINGS. SO THE SAME THING. IT'S THE SAME THING. IT DOES - BECAUSE YOU DIDN'T WANT TO PLAY - THIS POINT OF VIEW - OKAY. TELL ME WHY IT'S A TRIP.

SPEAKER: IT'S A BIAS. THE DATA AND THEN IF YOU LOOK SIMPLIFY IT DOWN.

INSTRUCTOR: THAT'S RIGHT. BECAUSE IT'S UNBIASED, IT'S THERE. RIGHT. THERE TOO HAVE ADVICE, EXPECTATIONS, SO BASICALLY REPLACEMENT BY THETA BECAUSE IF YOU KNOW, SO THIS IS, YOU KNOW, THETA. SO IT'S GETTING MORE FANCY. THIS MEANS SUM. YOU WANT YOUR ISOLATED NUMBER TO BE HERE. HOW DO YOU KNOW WHETHER TO CLOSE OUT? IF YOU SQUARE THIS LOOK AT THE

DIFFERENCE. YOU KNOW THIS IS FIVE, THIS IS 4.9.  
ANOTHER VALUE IS TO LOOK AT THE SQUARE, LOOK AT THE  
SQUARE IS SMALL, THEN LOOK AT IT CLOSE. SO THIS IS  
THE DIFFERENCE. SO I'M - SO WHAT THE SAME IS THE  
BEARINGS THE BEARINGS UNDERNEATH THE - THE CLOSER TO  
THETA THAN THETA TWO HAD. LEVERAGE IS CLOSER TO THEIR  
OWN VALUE THETA TWO. SO THIS IS JUST EXPLAINING WHEN  
WE COMPARE IT TO ISOLATE IT. CHOOSE EITHER ONE, THE  
SMALLER BEARING AND THEN IT MAKES SENSE. SMART, YEAH.  
LET'S DO SOMETHING SIMPLE. FROM FIRST SUM OF ONE  
NUMBER - THIS IS MY NOTATION FOR DISTRIBUTION. IT  
COMES. THE SUM. SUMS - THIS IS THE NORMAL. ONE  
THERE AND ONE OVER HERE. THIS IS SEVEN. OKAY. THIS  
IS AN ISOLATE. Y AND X, ALL THE THOUSAND, NO DAMAGE.  
SO IF YOU LOOK OVER HERE, YOU CAN MATCH IT. MAYBE I  
WANT YOU TO - - SOMETIMES IT'S YOU CAN DO THIS. IF  
YOU LOOK AT THE REMAINDER, AND THEN - IF YOU LOOK  
HERE - IF YOU WANT, YOU CAN THINK ABOUT IT, THE  
ISOLATOR, IS OVER - IF YOU LOOK AT ACCURATE DATA, YOU  
ARE LOOKING AT ONE VARIABLE, IT'S CALLED ISOLATOR. SO  
YOU CAN USE IT. IT'S CLEAR. MOST OF THE TIME,  
THERE'S NO NEED TO INTERPRET THE SOLUTION. IT'S  
FUNCTION OR AVAILABLE FUNCTION, THIS. YOU VALUE THE  
FUNCTION. THE ISOLATOR, YOU CAN DO THIS. ANYWAY, I  
THINK IT'S OBVIOUS, THESE ARE GOAL IMMERSSED. ONE

SENTENCE, YOU HAVE ANY DOUBT, I CAN EXPLAIN. THIS IS THIS FACT. YOU CAN LOOK AT BOTH PARTS OF THE VARIABLE. THE MEAN IS LARGE; RIGHT? SO YOU LOOK AT THIS SIDE. WITH THIS WE CAN CHECK THAT BECAUSE IT'S - IF YOU LOOK HERE, THIS IS ALL - THIS ONE IS LAMBDA, LAMBDA OVER THREE. LAMBDA OVER THREE.

WE'RE GOING TO TAKE A BREAK NOW.

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