Y9&10 INFORMATION EVENING

MATHEMATICS

SUPPORTING WITH MATHS

- HOW CAN WE HELP STUDENTS TO DO WELL IN MATHS? THREE THINGS

- DEVELOP AND REINFORCE THE IDEA THAT EVERYONE CAN DO WELL IN MATHS AND IT IS VALUABLE FOR EVERYONE

- FOCUS ON MAKING THE MOST OF LESSON TIME; 120 HOURS PER YEAR

- CREATE REGULAR OPPORTUNITIES TO DO MORE PRACTICE; HOMEWORK AND INDEPENDENT STUDY

EVERYONE CAN DO WELL IN MATHS

- THE MOST IMPORTANT MESSAGE

- YOU GET BETTER AT MATHS IF YOU WORK AT IT

- NO ONE IS BORN BEING ABLE TO DO IT

- THOUGH SOME LEARN FASTER THAN OTHERS

MATHS IS VALUABLE

- SOME BELIEVE THEY *CAN* DO WELL BUT ASK

- "WHEN WILL I EVER USE THIS?"

- GOOD QUESTION!

- SOMETIMES A TIME WASTER BUT OFTEN GENUINE

MATHS IS VALUABLE

- THERE ARE MANY WELL PAID CAREERS THAT DO REQUIRE SPECIFIC MATHS KNOWLEDGE; SCIENCE, MEDICINE, ENGINEERING, COMPUTING.

- NOT ALL WILL DO THESE, BUT WE DON'T WANT STUDENTS TO RULE OUT OPTIONS AT SUCH A YOUNG AGE

MATHS IS VALUABLE

- MORE BROADLY, YES, YOU WOULD USE A CALCULATOR TO DO 56 X 74 (ME TOO!)

- BUT MATHS IS REALLY A WAY OF THINKING, ONE THAT ALLOWS YOU TO ACHIEVE SOME LEVEL OF CERTAINTY ABOUT BEING RIGHT

- THIS IS VALUABLE IN LOTS OF CAREERS AND AREAS OF LIFE; FROM MAKING A BUSINESS PLAN, TO ARRANGING A SCHEDULE, TO PLANNING AN EVENT

- OFTEN WE LOOK AT SIMPLIFIED PROBLEMS BECAUSE THE REAL WORLD IS A QUITE MESSY AND COMPLEX

MAKING THE MOST OF LESSON TIME

- THERE ARE EXTRA THINGS THAT WE CAN DO, BUT THE 120 HOURS OF LESSONS IS THE MOST IMPORTANT PART OF DOING WELL

- SOME OF THESE DON'T SHOW RESULTS AT FIRST, BUT THEN THE COMPOUND EFFECTS OF HARD WORK START TO BECOME CLEAR
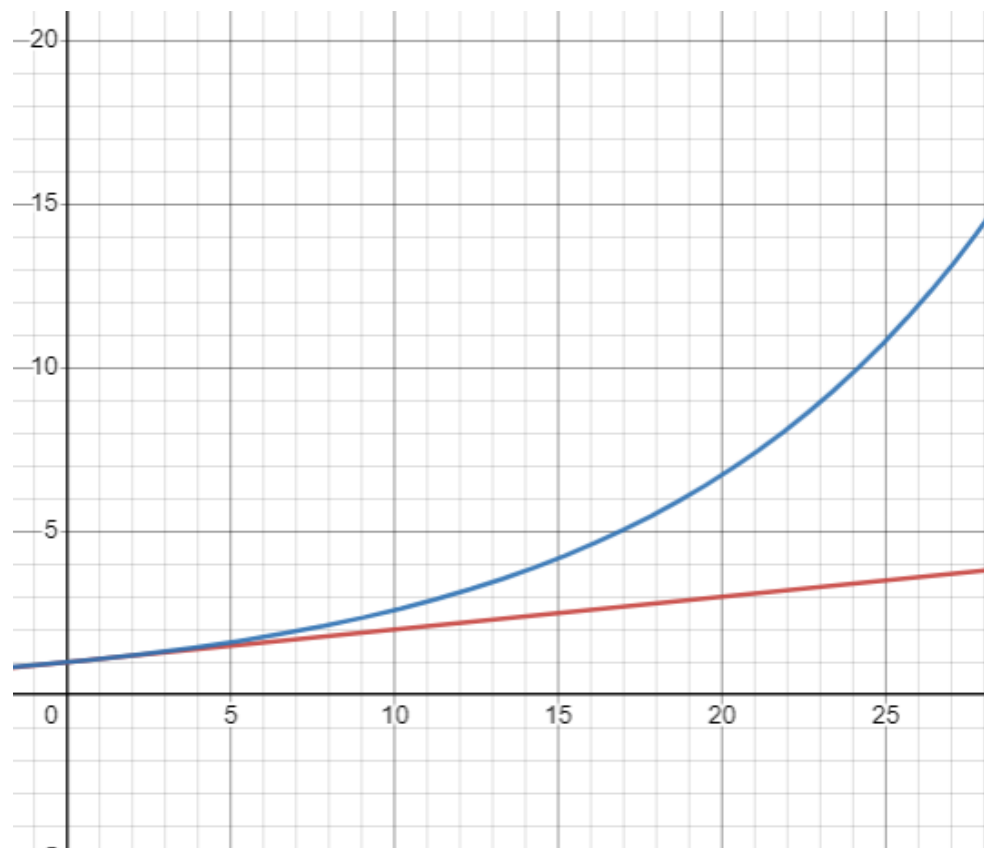
MAKING THE MOST OF LESSON TIME

- WHAT IS THE SECRET TO THE FASTER PROGRESS? TWO THINGS:

- FULL ATTENTION ON EXAMPLES
- DO LOTS OF PRACTICE TO BECOME FLUENT

DOING WELL IN MATHS LESSONS

- MATHS IS GENERALLY TAUGHT THROUGH EXAMPLES

- IF WE TAKE SOMETHING VERY SIMPLE, LIKE THE IDEA OF "3", THE DICTIONARY SAYS

- equivalent to the sum of one and one; one less than three; 2.

- NOT THAT MUCH HELP!

- BUT EVEN VERY YOUNG CHILDREN CAN GRASP THE IDEA BY LOOKING AT EXAMPLES

DOING WELL IN MATHS LESSONS

- IN SECONDARY MATHS, WE MIGHT LOOK AT SOMETHING LIKE

1. $\quad 4^5 \times 4^3$

2. $\quad 7^5 \times 7^3$

3. $\quad a^5 \times a^3$

4. $\quad a^2 \times a^3$

5. $\quad a^{1.5} \times a^{2.5}$

6. $\quad a \times a^{100}$

HOW STUDENTS SHOULD PAY ATTENTION:

- WHAT WOULD I SAY FOR THE NEXT ONE?

- WHAT WOULD HAPPEN IF…

NOT; I'M JUST GOING TO ASK WHEN SHE'S DONE EXPLAINING

DOING WELL IN MATHS LESSONS

- AS WELL AS ATTENDING TO EXAMPLES, STUDENTS NEED TO PRACTICE.

- AS STUDENTS PRACTICE, THEY DEVELOP NEW SKILLS AND GAIN NEW KNOWLEDGE.

- THEY START TO SEE THINGS DIFFERENTLY

- CONSIDER MEMORISING

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DOING WELL IN MATHS LESSONS

- STUDENTS NEED TO PRACTICE UNTIL THEY CAN DO THE BASIC SKILLS WITHOUT THINKING

- THIS IS SIMILAR TO LEARNING TO DRIVE; WHAT WAS ONCE DIFFICULT BECOMES EFFORTLESS

- STUDENTS ALSO NEED TO EXPERIENCE A WIDE RANGE OF PROBLEMS – NOT JUST THE EASIEST TYPE

DOING WELL IN MATHS LESSONS

- ONE MORE THING

- BOYS PARTICULARLY

- ENCOURAGE WRITING OF SOLUTIONS, NOT JUST ANSWERS

EXTRA PRACTICE

- WE WILL USUALLY SET HOMEWORK ON THE WEBSITE DRFROSTMATHS.COM

- STUDENTS CAN ALSO PRACTICE HERE INDEPENDENTLY – A 30 MINUTE WEEKLY PRACTICE AT HOME WOULD HAVE CONSIDERABLE BENEFITS

- YOU WILL HAVE GOT AN EMAIL FROM SCHOOL WITH LOG IN DETAILS – I'D LIKE TO SHOW YOU A COUPLE OF THINGS NOW AND GIVE YOU CHANCE TO TRY. SEE THE LINK BELOW FOR ADVICE ON HOW STUDENTS CAN PRACTICE.

- [ND Maths (padlet.com)](padlet.com)