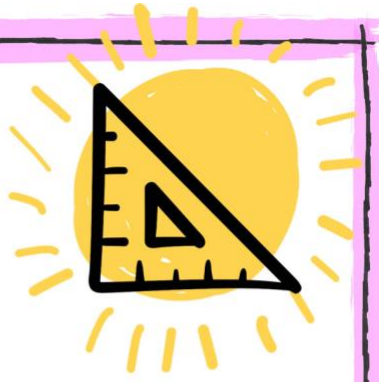
SUMMER TASKS: MATHS YEAR 9



TASK ONE

Have a go at KS3 Home learning CHALLENGE 3 Investment – see the PowerPoint for full instructions

TASK TWO

Follow the link below and watch the video on Solving simultaneous equations - using plums and peaches in China
https://www.bbc.co.uk/bitesize/clips/z3m3cdm
Try and repeat u Sautoy's experiment using items from your home.

TASK THREE

Follow this link
https://qualifications.pearson.com/content/dam/pdf/GCSE/mathematics/2015/misc/gcse-maths-formulae-sheet-a5.pdf
These are the formulae you WILL NOT be given in your GCSE exam. Use the time over the summer to memorise these formulae. Maybe you could create a poster to help you.

TASK FOUR

Follow this link
https://www.teachwire.net/news/42-maths-teasers-for-ks3-4-a-puzzle-a-day-for-the-summer-holidays
every day to attempt a new puzzle for every day of the school holidays!

TASK FIVE

Follow this link
https://topdocumentaryfilms.com/story-of-one/
to watch the film “the story of one”

Saturday, 10 July 2021

£10k a day or invest 1p?

Would you rather...

I will put £10,000 **every day** in the bank for you for the next 31 days

OR

I will put 1p in the bank today and it will double every day for 31 days

What are we learning today? Recall prior knowledge and Apply our problem solving skills.
Develop our wider maths knowledge and applications in the real world.

Find out which is the better option!

Extension:

- What's the quickest way to find each answer?
- What is the formula for any starting amount, any number of days and any multiplier for the pennies account?

£10,000 a day

£ 31 000

£10 000 x 31

M x D

M = Amount of money
D = Number of days

1p, 2p, 4p, 8p, …

£ 10 737 418.24

£0.01 x 2^{30}

$S \times R^{(D-1)}$

S = Starting amount of money
R = Common ratio
D = Number of days

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£10,000 a day

£ 31 000

$M \times D$

M = Amount of money
D = Number of days

1p, 2p, 4p, 8p, …

£ 10 737 418.24

$S \times R^{(D-1)}$

S = Starting amount of money
R = Common ratio
D = Number of days

- After how many days does the amount in pennies become more than the amount in cash?
- Can you create a problem where the amount at the end is approximately the same at the end of the 31 days?

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£10,000 a day

£ 31 000

$M \times D$

M = Amount of money
D = Number of days

Day 22 = £ 22 000

Day 23 = £ 23 000

1p, 2p, 4p, 8p, …

£ 10 737 418.24

$S \times R^{(D-1)}$

S = Starting amount of money
R = Common ratio
D = Number of days

Day 22 = £20 971.52

Day 23 = £41 943.04

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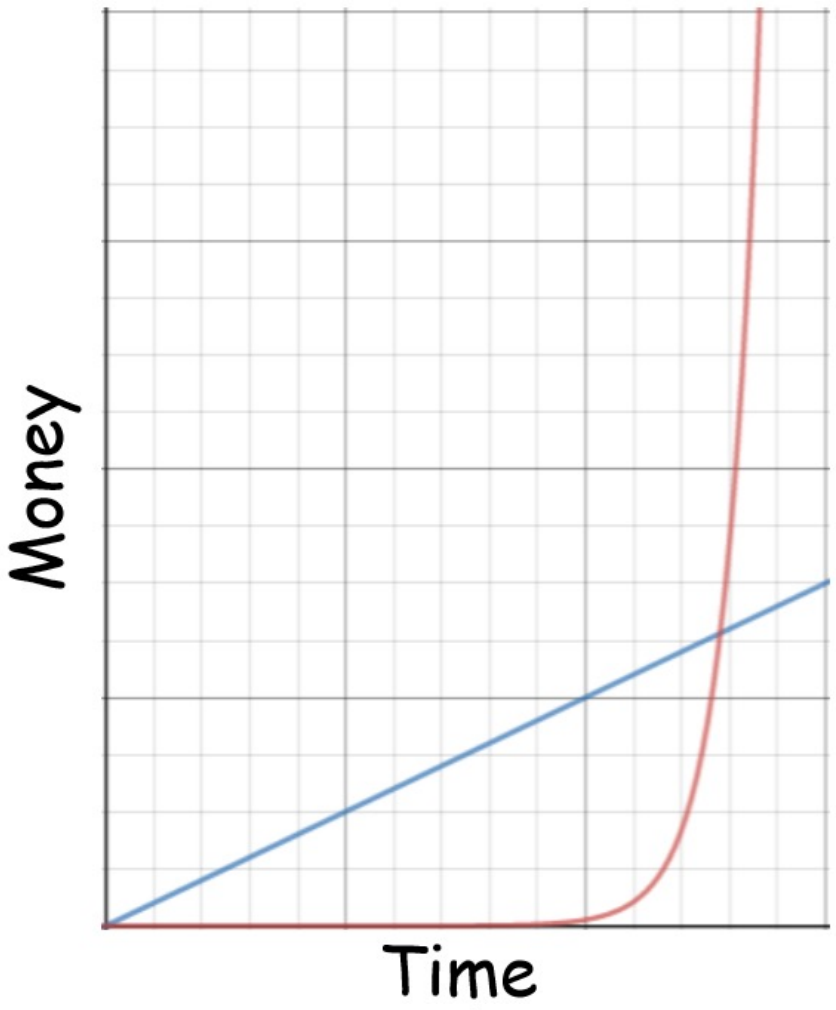
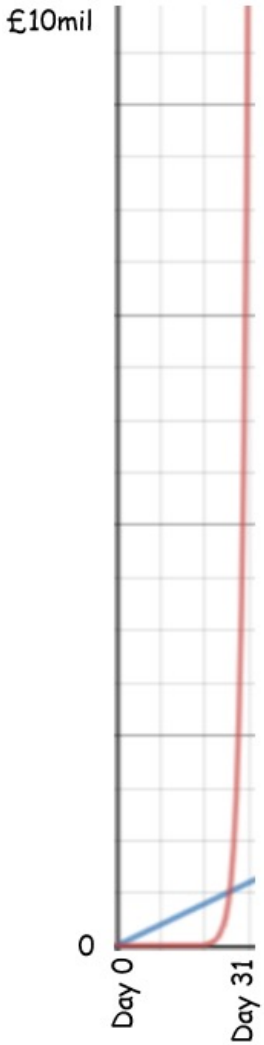
So why does the "doubling penny" option end up as more than the £10000 cash?



Pennies

Cash



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