WHAT IS FUN AND INTERESTING ABOUT MATHS
(Friendly Maths worksheet, May 17th, 2022)
Motto: Use your brain power! ;)

Five teenagers, future young ladies, Facebook owners and all of social media – so anchored in reality, passionate about mathematics (strange, right?), are trying hard to tidy their room. Their mother is scolding them all this time and out of all this fuss comes an unpredicted and innocent math lesson.

During this lesson, all sorts of concepts from mathematics are remembered, both from arithmetic and algebra as well as from geometry. At some point, the girls also try to tidy all the mathematical concepts listed while cleaning the room, but they get lost among their own thoughts and information. Help the girls find the concepts by filling in the "I KNOW" column in the table below. In the column "I WANT TO KNOW" fill in everything you want to know in addition to the first column, that is, what you did not understand too well or at all during the sketch. Finally, fill in the last column – "I LEARNED" – with all the new things learned during this activity and that are connected to mathematics in particular. Also, don't forget to answer to the questions you'll find after filling the table.

This activity is connected to the "My life between maths and everything else" play you watched yesterday so you really have to remember the important mathematical concepts achieved then. The concepts could be from geometry or from arithmetic and algebra as well.

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I KNOW	I WANT TO KNOW	I LEARNED

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MINISTERUL EDUCAȚIEI

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1. Ascendingly order all the numbers mentioned in the sketch.

   _____

2. Calculate the first 2 decimals of the arithmetic mean of the numbers mentioned in the sketch.

   _____
   _____
   _____

3. If $10^2 + 24^2 = 100 + 576 = 676 = 26^2$, we say the numbers found in the (10,24,26) triplet are *Pythagorean numbers*. Find other Pythagorean number triplets starting from the examples:

   $39^2 + 80^2 =$ ...., (.....,.....,.....) Pythagorean numbers

   $18^2 + 80^2 =$ ...., (.....,.....,.....) Pythagorean numbers

   $12^2 + 5^2 =$ ...., (.....,.....,.....) Pythagorean numbers

   $15^2 +$ ..... $= 17^2$, (.....,.....,.....) Pythagorean numbers

   ..... $+ 16^2 = 20^2$, (.....,.....,.....) Pythagorean numbers

   $24^2 + 7^2 =$ ...., (.....,.....,.....) Pythagorean numbers

   $20^2 + 21^2 =$.............................., (.....,.....,.....) Pythagorean numbers

   .....$^2 +$ .....$^2 =$ ...., (.....,.....,.....) Pythagorean numbers

   .....$^2 +$ .....$^2 =$ ...., (.....,.....,.....) Pythagorean numbers

   .....$^2 +$ .....$^2 =$ ...., (.....,.....,.....) Pythagorean numbers

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4. Work out the arithmetic mean of the first 26 decimals of pi number reading the poem and joining each number of the letters in a line with a decimal of pi. Is the arithmetic mean bigger than 5?

Yum!	chocolate.
I	But
love	is
a	the
tasty	fixation
baked-good.	sane
I'd	though?
devour	I'm
every	wholly
pie.	sure
Apple,	it's
chestnut,	not
blueberry,	rational.
pumpkin,	

5. The length of a circle is 18Π cm. Work out the area of the circle.
6. How much is the length of a circle with the area of 49Π cm²?
7. Find out the area of a semicircle of a circle with a radius 10 cm long.
8. The points A, B, C are situated on a circle with O the center so AC is the diameter, BC = 5 cm and $\widehat{AOB} = 120^0$. Work out the length of the circle.
9. Work out the length of a circle's diameter with its area of 64Π cm².
10. From a square-shaped tin plate with a side of 4 dm, a disc with a maximum radius is cut out. How much is the area of this disc?
11. The radius ratio of two circles is 2/3. How much is the circle's length ratio?
12. The area ratio of two discs is 4/25. Find out the radius ratio of the discs.
13. The equilateral triangle ABC is inscribed in a circle. Knowing that AB = $12\sqrt{3}$ cm find out the length of the circle.
14. The square ABCD with its side of $6\sqrt{2}$ cm long is inscribed in a circle. Work out the length of the circle.