Happy 2023

FROM TEAM **PRIMECH**

DEMONSTRATION

Who is pulling?
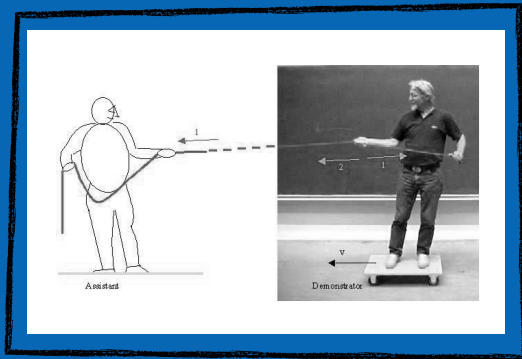
Ron Haaksman will be our guest speaker on Jan 26th

Scan the QR code to download the demo

January

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
52							1 New Year's Day
1	2	3	4	5	6	7	8
2	9	10	11	12	13	14	15
3	16	17	18	19	20	21	22
4	23	24	25	26	27	28	29
5	30	31					

PRIMECH EVENT

PRI MECH

CAN YOU SOLVE THIS ?

February
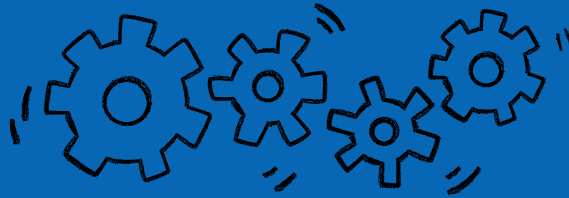
We have 4 connected gears in a machine. The first and largest has 168 teeth. The others, decreasing in size, have 49, then 32, then 15 teeth.

How many complete turns must the largest of these cogs make before all four return simultaneously to the starting position?

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
5			1	2	3	4	5
6	6	7	8	9	10	11	12
7	13	14 Valentine's Day	15	16	17	18	19
8	20	21	22	23	24	25	26
9	27	28					

PRIMECH

DID YOU KNOW?

Early Babylonian, Egyptian and Hebrew records indicate that length was first measured with the forearm, hand, or finger.

Did you know that around the world different cultures have different numerical systems depending on what parts of the body they use to count?

Scan the QR code to read more about ancient SI units

March

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
9			1	2	3	4	5
10	6	7	8	9	10	11	12
11	13	14	15	16 PRIMECH EVENT	17	18	19
12	20	21	22	23	24	25	26
13	27	28	29	30	31		

PRIMECH

DEMONSTRATION

April

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
13						1	2
14	3 PRIMECH EVENT	4	5	6	7 Good Friday	8	9 Easter Sunday
15	10 Easter Monday	11	12	13	14	15	16
16	17	18	19	20	21	22	23
17	24	25	26	27 King's Day	28	29	30

Dr Tatiana Erukhimova (Texas A&M University) demonstrates a wide range of physics phenomena with her contagious enthusiasm.

Find out how she demonstrates pressure with the help of eggs by watching this video!

PRIMECH

THAT TIME WHEN...

In early 1941, the inventor of computational statics, John Argyris was arrested for leaking research findings to the Allies. The head of the intelligence service of the German forces arranged Argyris' escape under the pretence that Argyris was to be executed outside the concentration camp, the guards let them pass by. Shortly afterwards, Argyris managed to swim across the Rhine to freedom, holding his passport between his teeth. Without that swim, mechanics as we know it would be very different!
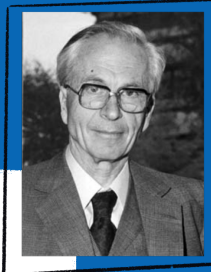
John Argyris (1913 – 2004), one of the inventors of the Finite Element method

May

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
18	1	2	3	4	5 Liberation Day	6	7
19	8	9	10	11	12	13	14 Mother's Day
20	15	16	17	18 Ascension Day	19	20	21
21	22	23	24	25	26	27	28 Whit Sunday
22	29 Whit Monday	30	31				

PRIMECH EVENT

Scan the QR code to read more biographies of mechanics protagonists

Kurrer, K.-E. (2018). The history of the theory of structures: searching for equilibrium

PRI MECH

ᴎ mirrored handwritten text (reversed):

(mirror-writing, top)

June

CAN YOU
SOLVE THIS ?

? ?

Do you think you got it?
Scan de QR code to
check the solution!

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
22				1	2	3	4
23	5	6	7	8	9	10	11
24	12	13	14	15	16 PRIMECH EVENT	17	18 Father's Day
25	19	20	21	22	23	24	25
26	26	27	28	29	30		

PRI MECH

DEMONSTRATION

You're an engineer in the Netherlands and you think you know all about bikes? This video might test your knowledge!

Watch till the end for a TU Delft appearance!

Scan the QR code to watch the video

July

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
26						1 Keti Koti	2
27	3	4	5	6	7	8	9
28	10	11	12	13	14	15	16
29	17	18	19	20	21	22	23
30	24	25	26	27	28	29	30
31	31						

PRIMECH

HOW TO SOLVE A PHYSICS PROBLEM

1) WRITE OUT ALL EQUATION AND FACTS

2) DRAW FREE BODY DIAGRAM

3) SOLVE.

4) GET WRONG ANSWER

5) CHECK CALCULATIONS. GET NEW WRONG ANSWER

6) REDO CALCULATIONS. GET THIRD WRONG ANSWER

7) SPECIAL PLEADING

MAYBE IF I AVERAGE MY ANSWERS AND TAKE THE SQUARE ROOT.

8) CHECK FOR ERRATA

STUPID AUTHORS PROBABLY GOT THE STUPID WRONG ANSWER.

9) FIND NOTHING.

EITHER EVERYONE EVERYWHERE IS WRONG, OR I AM SO... OH GOD.

10) LOCATE ALGEBRA ERROR

$2 - 3 = 5$

11) GET FOURTH WRONG ANSWER

12) LOCATE SEVENTEEN MORE ALGEBRA ERRORS

$2 - 3 = 5$
$5^2 = 52$
$52 = 5(2) = 10$
$10 = ZEBRA$

13) GET RIGHT ANSWER

HA HA HA HA HA HA HA

14) FEEL INTELLIGENT

TODAY I SPENT FOUR HOURS ON A SINGLE MATH PROBLEM.

15) REALIZE PROBLEM HAS SIX MORE PARTS

(ii) Do again with $f_1 = f_2 / 2$.
(iii) Do again for a universe where $\hbar = \epsilon_0$.

16) BECOME POET

SO... HAPPY.

by Zach Weinersmith, smbc-comincs.com

August

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
31		1	2	3	4	5	6
32	7	8	9	10	11	12	13
33	14	15	16	17	18	19	20
34	21	22	23	24	25	26	27
35	28	29	30	31			

PRI MECH
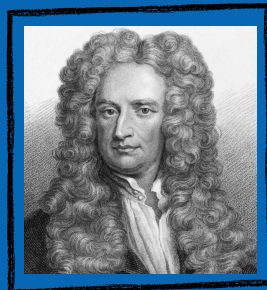
Isaac Newton, considered the creator of the subject of mechanics

September

Although Isaac Newton had unexceptional results in high school, one of his teachers thought he was university material and gave him extra tutoring.

The hallmark of Newton's scientific career: he often did not publish his important discoveries, at least not in a timely manner, and then he became very angry and aggressive when others made similar discoveries independently.

Krantz, S. - G. (2010). Episodic History of Mathematics

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
35					1	2	3
36	4	5	6	7	8	9	10
37	11	12	13	14	15	16	17
38	18	19	20	21	22	23	24
39	25	26	27	28	29	30	

Check your inbox for the next PRIMECH events

PRIMECH

DEMONSTRATION

Demonstration of circular motion compared to the motion of a mass on a spring by Harvard Natural Sciences Demonstrations.

MESMERISING

October

Scan the QR code to watch the video

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
39							1
40	2	3	4	5	6	7	8
41	9	10	11	12	13	14	15
42	16	17	18	19	20	21	22
43	23	24	25	26	27	28	29
44	30	31					

PRIMECH

DID YOU KNOW?

Using data of only three simple experimental setups (one of which is a pendulum), a computer has been able to figure out Newton's second law as well as conservation of energy and momentum by itself, without any prior knowledge.

Last summer, this line of research was successfully continued with a wider range of physical systems.

I AM SMART

November

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
44			1	2	3	4	5
45	6	7	8	9	10	11	12
46	13	14	15	16	17	18	19
47	20	21	22	23	24	25	26
48	27	28	29	30			

Chen, B. et al. (2022). Automated discovery of fundamental variables hidden in experimental data. Nature Computational Science, 2(7), 433–442.

Schmidt, M., & Lipson, H. (2009). Distilling Free-Form Natural Laws from Experimental Data. Science, 324(5923), 81–85.

PRIMECH

CAN YOU SOLVE THIS ?
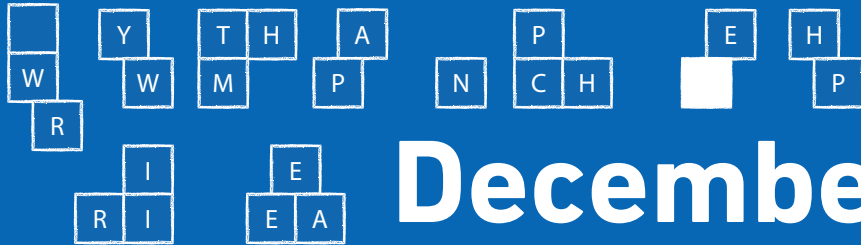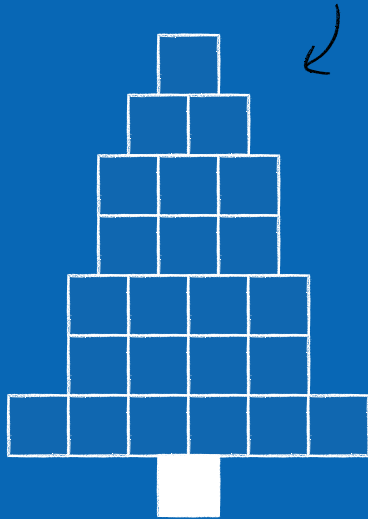
December

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
48					1	2	3
49	4	5 Sinterklaas	6	7	8	9	10
50	11	12	13	14	15	16	17
51	18	19	20	21	22	23	24
52	25	26	27	28	29	30	31

Do you think you got it?
Scan de QR code to
check the solution!

PRI MECH

2024

January

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29		

March

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

April

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

May

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

June

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

July

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

August

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

September

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

October

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

November

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

December

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

PRIMECH