Quiz Keys 2026

FORMULA STUDENT AUSTRIA

Question 1 - Main hoop

Main hoop

Which material must not be used for a main hoop?

- ○ E355+A
- ◉ S235JR
- ○ E355+C
- ○ S450JO

FORMULA STUDENT AUSTRIA

Question 2 - Engine displacement

Engine displacement

What is the displacement per cylinder of the Daimler Motor Carriage with a bore of 70 mm and a stroke of 120 mm?

Please round the result to two decimal places and give it in cm^3

Please use the following format: 12.34

Answer 461.81

Question 3 - ESO

ESO

When must an ESO place a "TSAL green" sign at the car in FSA?

- (●) There is no need for a "TSAL green" Sign
- ( ) Every time when somebody is working on the car
- ( ) Every time somebody is working at the TS
- ( ) Every time the TS is turned off and the GLVMS is turned off

FORMULA STUDENT AUSTRIA

Question 4 - Pacejka

Pacejka

The Pacejka Magic Formula 6.2 is:

- (●) A semi-empirical model that partially describes tire behaviour
- ( ) A physical model that perfectly describes tire behaviour
- ( ) A principle of equivalence between temperature and frequency in viscoelastic materials
- ( ) A semi-empirical formula that gives the forces generated by a tire as a function of slip ratio or slip angle, independently of camber or tire pressure

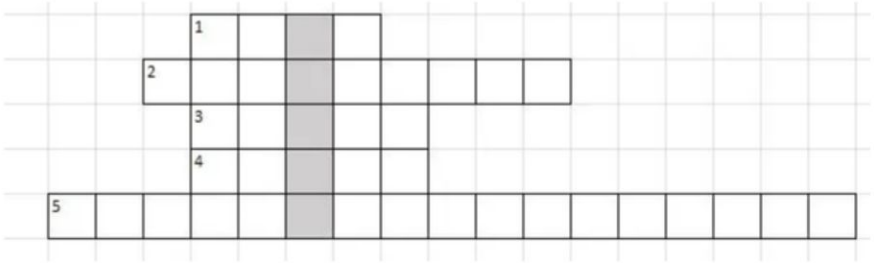
FORMULA STUDENT AUSTRIA

Question 5 - Crossword puzzle

Crossword puzzle

Complete the crossword puzzle. The word in the gray boxes is the solution.
Convert all letters from the solution word into numbers (a=1, b=2, c=3, etc.).
Sum all number converted letters to one single number.

1: Slightly wet, not dry
2: Dynamic Discipline, approximately 22 km
3: Mass * Acceleration
4: System to slow a vehicle down
5: p + 0.5 * rho * v^2 + rho * g * h = const.



Please use the following format: 12.34

Answer 74

FORMULA STUDENT AUSTRIA

Question 6 - Space cat

Space cat

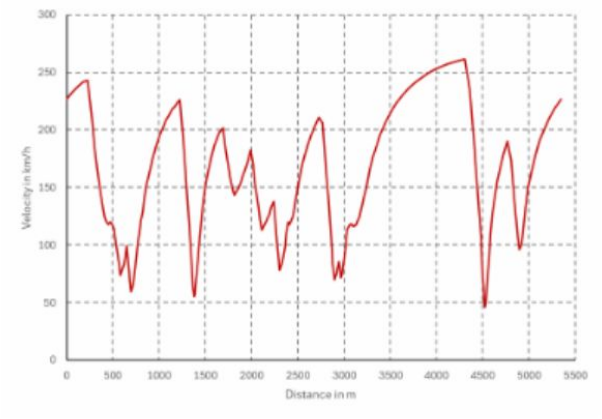
What was the name of the first cat in space?

- ○ Garfield
- ○ Hirti
- ◉ Félicette
- ○ Tardar Sauce

Question 7 - Velocity profile

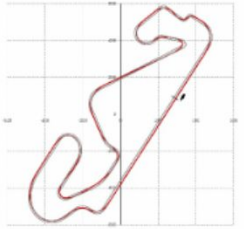
Velocity profile

You are looking thru some old data recordings of your GT3 car. You find the following velocity profile:

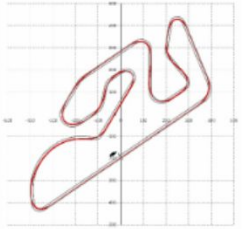


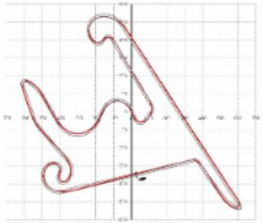
At which of these 4 race tracks was the data recorded?

a:



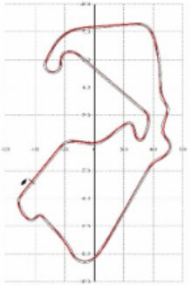
b:





c:

d:



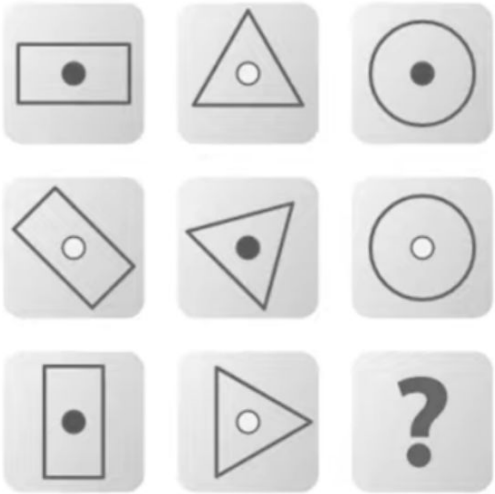
- ○ a
- ◉ c
- ○ d
- ○ b

FORMULA STUDENT AUSTRIA

Question 8 - Matrix

Matrix

Which of the elements fits into the series?



Options:

a) b) c) d) e)

- ○ e
- ○ d
- ○ c
- ○ b
- ◉ a

Question 9 - Structural integrity

Structural integrity

What is the correct statement

- ○ Part of the TSAC can be 340 mm above the lowest chassis point between the main and the front hoop, as long as it is inside the primary structure.
- ○ Openings or reductions in effective panel height within a composite front hoop bracing or a composite front bulkhead support must not exceed a total length of 62.5 cm.
- ○ The rear impact structure can be made of an aluminium welded structure bolted to the chassis, as long as it meets the requirements for bolted primary structure attachments.
- ○ Breake pedal face can be made of any material if it is proven by physical testing that it can handle 2 kN without failure.
- ◉ Steering system actuation by chain is allowed as long as it is implemented according to good engineering practice.

FORMULA STUDENT AUSTRIA

Question 10 - Number series

Number series

What is the logical decimal number following the sequence of hexadecimal numbers?

E, 13, 16, 1B, 1E

Please use the following format: 12.34

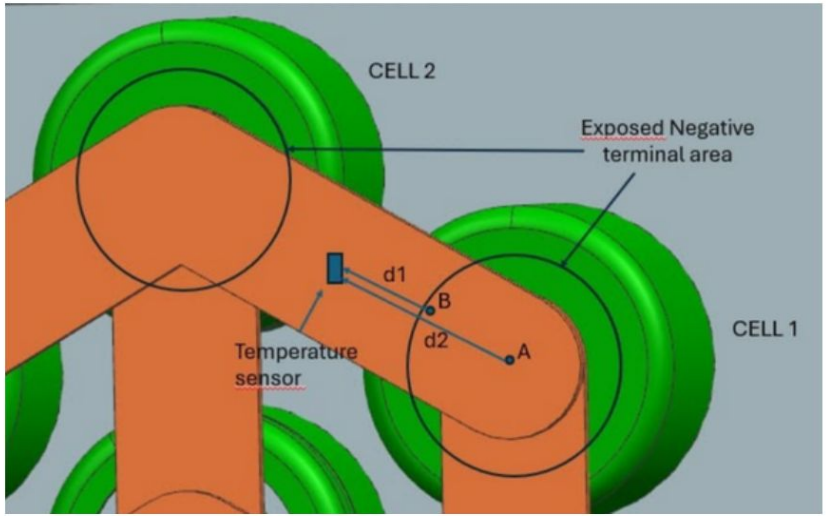
Answer 35

Question 11 [EV only] - Temperature Sensor

Temperature Sensor

Is this placing of the temperature sensor OK in 2026 at FSA?

d1 is 5 mm and d2 is 9 mm



- ○ No
- ◉ Yes

FORMULA STUDENT AUSTRIA

Question 12 [EV only] - New inverter

New inverter

One of your team members has fulfilled his long-standing dream of designing a new inverter for the team.

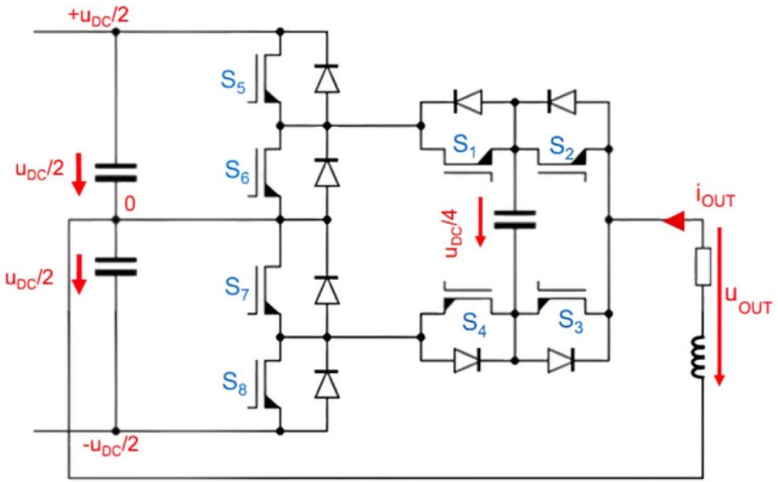
Unfortunately, during the design process he became a little too enthusiastic and decided to implement one of the most complex topologies imaginable, as shown in the schematics.

When you confront him about this, he insists that the circuit is “not that complicated at all”

Your task is to determine the output voltages U_out for the given switch configuration.

A switch position of 1 indicates ON, and 0 indicates OFF.

S_5	S_6	S_7	S_8	S_1	S_4	S_2	S_3
1	0	1	0	0	1	1	0



- ○ 0
- ○ UDC
- ○ +UDC/2
- ○ -UDC/2
- ◉ +UDC/4
- ○ -UDC/4

FORMULA STUDENT AUSTRIA