

WELCOME to the SAASTA AstroQuiz 2016 NATIONAL FINALS



QUESTION 1

The Moon is the Earth's natural satellite orbiting it at a mean distance of approximately _____

- A. 308 000 km
- B. 450 000 km
- C. 384 000 km
- D. 300 000 km



QUESTION 3

The three nearest stars to the Sun are _

- A. Spica, Betelgeuse, Rigel
- B. Aldebaran, Acturus, Polaris
- C. Proxima Centauri, Alpha Centauri A, Alpha Centauri B
- D. Proxima Centauri, Rigel, Spica



RULES OF THE QUIZ

- The audience must be silent throughout the quiz and **NOT** whisper to anyone.
- No resource material can be taken into the quiz venue.
- Teams have up to 1 minute to discuss each answer and must reveal their answers immediately when the signal is given that the time is up.
- The scores will be calculated and given after THE FIRST ten questions ONLY and overall winners will be announced at the Awards function in the evening.
- The audience will get a chance to win prizes!
- A tie-break will be settled on a "sudden death" basis, involving tied teams only (i.e. as soon as a team falls behind on correct answers, it is knocked out).



QUESTION 2

Which of the following is true about the Moon?

- A. Only one face of the Moon is visible from the Earth
- B. The whole surface of the Moon can be seen from Earth as the Moon rotates and revolves around it.
- C. Only one phase of the Moon is visible from the Earth
- D. The Moon does not rotate



QUESTION 4

The SKA, "Square Kilometre Array" is called as such because _____

- A. The size of all the telescopes together will add up to one square kilometre
- B. The total surface area of all the antennas will add up to one square kilometre
- C. The telescopes will be put on a one square kilometre bedrock
- D. One telescope will be one square kilometre in size



QUESTION 5

The core of the Square Kilometer Array will be situated in the Karoo in the Northern Cape province.

- A. True
- B. False



QUESTION 6

Which first demonstrator telescope did South Africa build to help with the developments of Square Kilometre Array?

- A. Kat-7
- B. MeerKat
- C. eXperimental Development Model
- D. SumbandilaSat



QUESTION 7

The Square Kilometre Array (SKA) will be able to _____

- A. Probe the secrets of the Universe
- B. Tell us more about the composition of the Earth
- C. Measure the core temperature of the Sun
- D. None of the above



QUESTION 8

What type of satellite is the South African satellite SumbandilaSat?

- A. Communication
- B. Earth observation
- C. Weather
- D. Navigation



QUESTION 9

South Africa's MeerKAT telescope is an SKA precursor or 'pathfinder' telescope. How many dish-shaped antennas will it consist of?

- A. 46
- B. 47
- C. 64
- D. 74



QUESTION 10

What is the name of the set of telescopes built as an engineering prototype for the MeerKAT?

- A. KAT-7
- B. ASKAP
- C. SALT
- D. MeerKat-7



QUESTION 11

What is the name of the largest single optical telescope found in the Southern Hemisphere?

- A. SKA
- B. SALT
- C. KAT-7
- D. MeerKAT

**QUESTION 12**

The diameter of the Earth is 12 756 km. If a soccer field is 100 m long, how many soccer fields will fit in the Earth's diameter?

- A. 127 560
- B. 1 275 600
- C. 12 756 000
- D. 12 756

**QUESTION 13**

The nearest planet to the Sun with more than one moon is _____

- A. Mercury
- B. Mars
- C. Venus
- D. Earth

**QUESTION 14**

Choose the true statements about Ceres. Ceres is

- i) in the Kuiper Belt.
- ii) a dwarf planet.
- iii) in the asteroid belt.
- iv) the largest comet .

The true statements are

- A. i) & ii) B. i) & iii) C. ii) & iii) D. i) & iv)

**QUESTION 15**

The diameters of the Sun and the Moon are approximately 1 391 000 and 3 475 km respectively. How many times bigger is the Sun than the Moon?

- A. 109
- B. 0,0032
- C. 400
- D. 1 387 525

**QUESTION 16**

Temperatures around the equator are on average higher than at any other area on planet Earth.

- A. True
- B. False



QUESTION 17

Heliocentric means ____ is in the centre.

- A. Jupiter
- B. Earth
- C. The Sun
- D. Neptune



QUESTION 18

Which of the planets below have no moons at all?

- A. Venus & Mercury
- B. Mercury & Neptune
- C. Uranus & Neptune
- D. Venus & Uranus



QUESTION 19

How many terrestrial planets have natural satellites?

- A. Five
- B. One
- C. Four
- D. Two



QUESTION 20

If the Earth has a diameter of 12 756 kilometres, what will its circumference (C) be in kilometres?

NB: $C = 2 \pi r$, $\pi (\pi) = 3.14$; r is radius.

- A. $4,0054 \times 10^4$
- B. $4,0054 \times 10^5$
- C. $4,0054 \times 10^6$
- D. $40,0054 \times 10^7$



QUESTION 21

When the Earth is furthest from the Sun, what season is it in the Southern hemisphere?

- A. Summer
- B. Winter
- C. Autumn
- D. Spring



QUESTION 22

What can be said about the lengths of the years on a planet? The year lengths ____

- A. increase with their distance from the Sun
- B. decrease with their distance from the Sun
- C. first decrease and then increase
- D. have no relation to the distance from the Sun



QUESTION 23

The largest moon in the solar system is _____

- A. Titania, a moon of Uranus
- B. Ganymede, a moon of Jupiter
- C. Titan, a moon of Saturn
- D. the Moon

**QUESTION 24**

If the planets Venus, Earth and Mars are arranged according to decrease in day lengths, what will the sequence will be?

- A. Venus, Earth, Mars
- B. Mars, Venus, Earth
- C. Earth, Mars, Venus
- D. Venus, Mars, Earth

**QUESTION 25**

Which of the following lists has the objects arranged with decreasing diameter?

- A. Earth's Moon, Pluto, Mars, Mercury
- B. Mars, Mercury, Earth's Moon, Pluto
- C. Mercury, Mars, Earth's Moon, Pluto
- D. Pluto, Earth's Moon, Mercury, Mars

**QUESTION 26**

Ordered by decrease in diameter, which sequence will be correct?

- A. Pluto, Haumea, Ceres
- B. Pluto, Ceres, Haumea
- C. Ceres, Pluto, Haumea
- D. Ceres, Haumea, Pluto

**QUESTION 27**

Apart from the Moon, which other celestial object in our solar system has been visited by human beings?

- A. Venus
- B. Saturn
- C. Mars
- D. None of the above



USE PICTURE 1 TO ANSWER QUESTIONS 28 to 30

PICTURE 1



QUESTION 28

Which object can be seen in picture 1?

- A. The Moon
- B. The Sun
- C. Venus
- D. Mars

**QUESTION 29**

What kind of an event is seen in Picture 1?

- A. Lunar eclipse
- B. Solar eclipse
- C. Start of solar flares
- D. Sun about to rise

**QUESTION 30**

When this event takes place, what phase of the Moon will it be?

- A. New Moon
- B. Full Moon
- C. First Quarter
- D. Third Quarter



THANK YOU

FOR PARTICIPATING



SUDDEN DEATH TIE BREAKERS

PLEASE REMEMBER:

The first team to get the first correct answer is the winner!

ALL THE BEST!



QUESTION 1

The tilt of the Earth's spin axis causes _____

- A. the seasons
- B. day and night
- C. the ice on its poles
- D. it to sustain life

**QUESTION 2**

The brightest star in the sky, Sirius, is/was _____

- A. Closest to the Earth
- B. Whiter and hotter than the Sun
- C. Blue and cold
- D. Discovered by Robert Innes in 1915

**QUESTION 3**

Which of the following is the most accurate statement about the seasons?

- A. Seasons occur because the Sun goes around the Earth and the Moon around the Earth
- B. Seasons occur because the Earth goes around the Sun
- C. Seasons occur because the Earth goes around the Sun and its axis is tilted at 23.5° to the plane of its orbit
- D. Seasons occur because the Earth's orbit brings it nearer and further away from the Sun

**QUESTION 4**

Which one of the following is true?

- A. A galaxy is made of a few collection of stars held together by gravity
- B. None of the stars in a galaxy have common gravity
- C. Galaxies contain stars only
- D. A galaxy is a collection of many stars, gas and dust which are held together by gravity

**QUESTION 5**

Planets in the solar system shine by _____

- A. Nuclear fusion in their cores
- B. Refracting sunlight
- C. Reflecting sunlight
- D. b and c above



**THANK YOU
FOR PARTICIPATING
ALL THE BEST!**

