

QUIZ GAME **SOLUTIONS** AND MARKING

FIRST GROUP: EASY BEGIN

1. What is the standard distance of the absolute magnitude scale, in light years?

A: 32,6

B: 10,0

C: 3,26

Time of submitting the good answer: _____

2. The total number of the “official” (accepted by the IAU) constellations on the whole sky?

A: 83

B: 85

Time of submitting the good answer: _____

C: 88

3. What is the angular size of the semi major axis of the Earth’s orbit around Sun as seen from 1 parsec distance?

A: 2'' (arc second)

Time of submitting the good answer: _____

B: 1'' (arc second)

C: 1' (arc minute)

4. What is the name of the largest companion of Pluto?

A: Charon

B: Chiron

Time of submitting the good answer: _____

C: Chronos

5. What is the highest atomic number (Z) of the chemical element that can be built in the core of most massive stars by “normal” fusion, before collapse?

A: 82, lead (Pb)

Time of submitting the good answer: _____

B: 54, xenon (Xe)

Time of submitting the good answer: _____

C: 26, iron (Fe)

SECOND GROUP: MEDIUM LEVEL

6. Estimate the current distance of the matter of Comet Shoemaker-Levy 9 from the Sun:

A: 52 AU

Time of submitting the good answer: _____

B: 12 AU

C: 10,4 AU

D: 5,2 AU since this comet was merged with Jupiter, colliding with it in 1994

7. Which is the least massive among the following Messier objects? (mark one with a circle!)

M3

M5

M15

M33

M57

Time of submitting the good answer: _____

8. Which solar probe studied the Sun from an orbit reaching very high ecliptic latitudes?

A: Parker Solar Probe

B: Ulysses

C: Solar Polar Probe

Time of submitting the good answer: _____

D: Solar Dynamics Observatory
 E: Yohkoh

9. Which object is NOT a dwarf planet? (mark one with a circle!)

A: Ceres
 B: Eris
 C: Makemake
 D: Pluto
 E: Sedna

Time of submitting the good answer: _____

10. Which is the brightest among the following naked-eye stars?

A: beta Ori
 B: beta Cep
 C: beta Cyg
 D: beta Lyr
 E: beta CMa

Time of submitting the good answer: _____

THIRD LEVEL: COMBINED TASKS

11. Calculate/estimate the average distance between the two groups (Trojans and Greeks) of Trojan asteroids of Jupiter with an accuracy of 0.1 AU.

9.0

Time: _____

12. What is the characteristic orbital period of a contact binary star formed by two solar type stars (in hours, rounded to the closest integer) ?

4

Time: _____

13. Which constellation is missing on the damaged stellar map, which you received in the envelope?

Coma Berenices

Time: _____

14. Which is the brightest star along the line drawn perpendicularly across the midpoint of the line connecting **α Vir** (Spica) and **α Boo** (Arcturus) stars? Use the stellar map from the previous envelope, and your rulers.

α Leo (Regulus)

Time: _____

15. Estimate the escape velocity from the surface of Mars (in km/sec, rounded to integer)

5

Time: _____

FINAL TASK

16. Guess which is the remarkable individual object on the missing piece? What type of object is this?

Time of submitting the good answer: _____

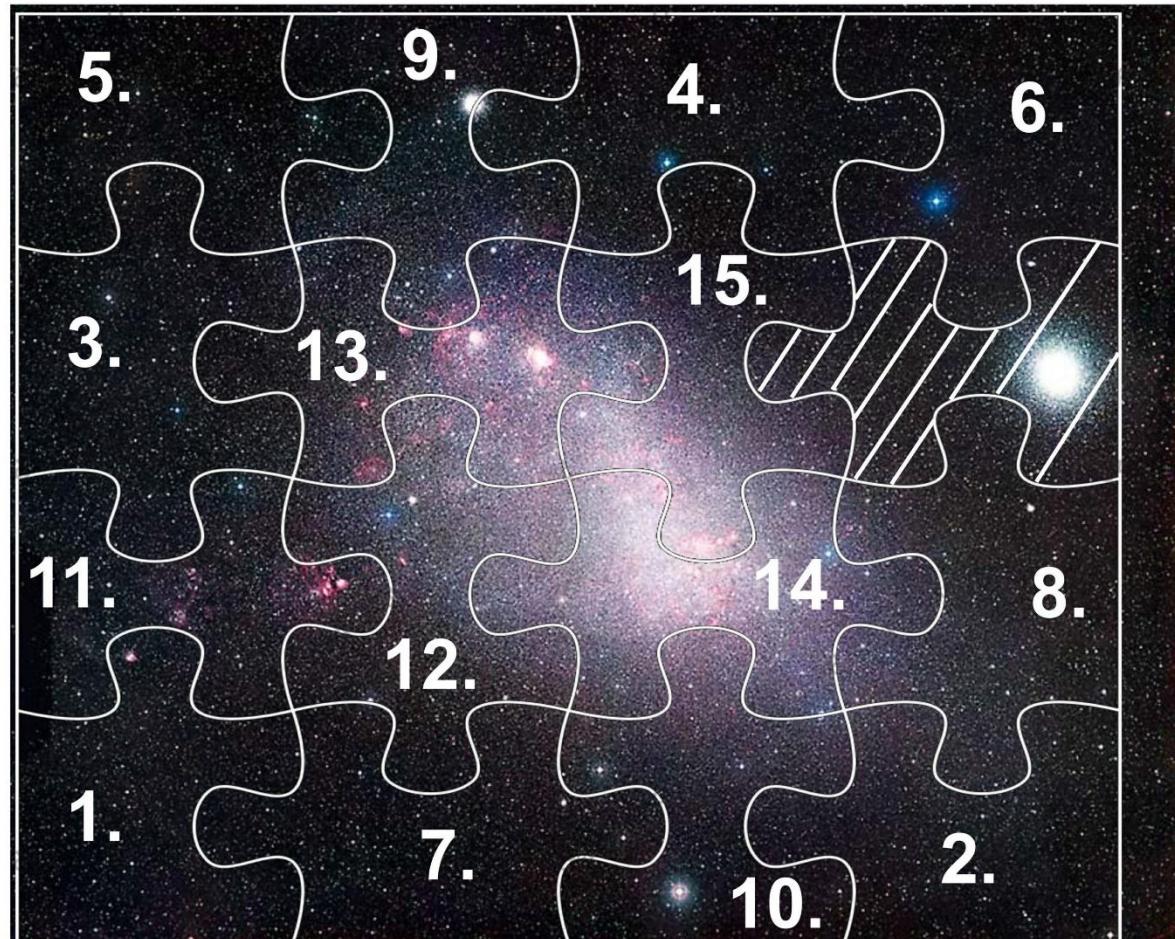
Answer 1.: IAU standard name:

47 Tuc

Answer 2.: IAU standard name:

globular cluster

EVALUATION OF THE PUZZLED IMAGE (right positions of numbered pieces)



HOW MANY PIECES ARE AT RIGHT PLACES AT THE END OF GAME?

signature of the quizmaster