

Subject: Math
Level: High School 2nd grade (16 years old)
Time: 20 min.

MATH_HU_3_EN

Answer each of the following questions with Yes or No

1. If two boys drink 2 glasses of milk during 2 minutes, is it true that four boys drink 4 glasses of milk during 4 seconds?
2. There are 12 people waiting for lifestyle counselling. Six out of them wear socks, 4 wear shoes. 3 have both socks and shoes. Are there 5 without shoes and socks, indeed?
3. In 2013 there were 4000 people cured with drug problems, 3 % of them were in prison. Is it right that there were 120 people cured with drug problem in the jail?
4. According to the British Journal of Sport Medicine every hour you sit in front of the TV, shortens your life with 22 minutes. Joe watches the TV 3 hours a day since his age of 10. According to the article by the time of his age of 86 his life will be 3.5 years shorter. Is this statement right?
5. Every 13th minute someone dies in the world due to smoking. Pete tells that every day approximately 6646 people die because of smoking. Is he right?
6. 50000 students were asked if they have ever kayaked. 22500 answered yes. Is it true if 45 % of the students has already tried this sport?
7. A boy decides that because of his diet his carbohydrate intake in the evening will not exceed 30 g. Can he drink 6.5 dl fruit juice with carbohydrate content of 4.6 g/100 ml?
8. 61.8 % of the Hungarian adults is overweight, 49,7 % of them never does intensive training. Can we find out from the information above that what % of the overweight adults does no intensive training?
9. Researchers at Cambridge University found that every year approximately 676 thousand people die because of lack of motion. Besides this, obesity causes the early death of 337 people in Europe. Is it true, that the death due to the lack of motion is more than twice than the death caused by obesity?
10. The road to Írótkő Peak is 9 km long. A walker has to return by 5 PM in winter from the 18 km trip. Peter estimates that he can walk with an average speed of 3 km/h uphill and 1.5 times faster downhill. These also include the short breaks, too. If he leaves at 12:20, can he return before it gets dark?
11. Nurses have to calculate the IV rate C (the drops per minute in case of infusion), in drop/minute. They use the following formula: $C = \frac{cV}{60t}$ where c is the drop factor: in drop/ml, V is the volume of the infusion in ml, t is number of hours during which the infusion should be given. The nurse would like to double the time of the infusion (t) so that c and V won't change meanwhile. So she decides to fourfold the IV rate. Was she right?
12. Louis is a heavy smoker, he smokes a box of cigarettes (19) a day. A box of cigarette costs 930 Ft. He was told if he quits smoking for 6 months, he can buy his heart desire: a bicycle, which costs 171 000 Ft. Is this possible?
13. According to a survey, in which equal number of 16-year-old boys and girls were asked, 18.9 % of the girls and 20,9 % of the boys has already used prohibited substances. Is it true that exactly 20 % of the youngsters has used drugs?
14. Nearly 27 thousand people die with lung cancer every year, and 90 % of them is heavy smoker. Kate declares that yearly 24 thousand heavy smoker dies with lung cancer. Is she right?
15. There was a survey in 2011 with 2000 youngsters. 19.9 % of them has already tried out a drug. We know that half of them used the drug only once. Is it true that 129 used the drug only once?

