

Grade 9 Mathematics Worksheet

Data handling 2

Questions:

1. An article appeared in a leading South African news paper. (www.news24.com) The article's first paragraph read:

It's no longer a question of whether your child will be exposed to drugs, but how the two of you will react when it happens.

Statistics show that one in every three South African children has experimented with drugs by the time they reach matric. Organisations involved with drug addiction say that substance abuse is very common in schools and children as young as nine are entering rehabilitation programmes.

These figures make it clear that parents cannot assume that their children will say no to drugs. Make sure that you and your children are well informed and prepared.



- a) This article reveals shocking statistics. Express the ratio given in the article as a percentage.
- b) The researcher made use of a sample. What is a sample and when do researchers use samples?
- c) If an article makes a claim "one in every three South African children has experimented with drugs", how would the researcher have to make up his/her sample?
- d) It is revealed that the data was collected by having interviews with the teenagers. Do you think the information is reliable? Motivate your answer.
- e) Your Life Orientation educator says that your class is going to conduct similar research. You will randomly phone people on their cell phones. When the phone is answered by a teenager you will use the person as part of the sample. All cell

Grade 9 Mathematics Worksheet

phone service providers' numbers will be included in the research. Will this be a fair sample?

The following useful information also appeared in the article:

Need help?

Call Narcotics Anonymous on 088 130 0327 (www.na.org.za), or the Drug Abuse Crisis Line on 088 129 6791. Also go to www.drugwise.co.za, www.drugaware.co.za, www.sahealthinfo.org or www.aboutdrugtreatment.org.

Grade 9 Mathematics Worksheet

Solution:

1. a) One in every three children = $\frac{1}{3} \times 100 = 33\%$
 - b) The sample they chose are the school going population – so the learners from grade 0 to grade 12. Researchers are concerned with the selection of units (e.g., people, organisations) from a population of interest so that by studying the sample we may fairly generalise our results back to the population from which they were chosen.
 - c) The sample must be totally random, because there is no reference to age or gender or any categorising information.
 - d) There are many factors that play a role here. If the researcher is known to the person, or a person that is known to the teenager was present, then the data will most probably in this case not be reliable. If the interviewer / interviewee relationship is completely anonymous, then the data is most probably reliable. The interviewer also relies completely on the honesty of the teenager.
 - e) Yes it will be because the sample is completely random.

This warning and advice must be included if this question is used in an assessment.