



D&D Resources Ltd
Mathematics Exam Preparation Made Easy

External Achievement Standard - 91584

Practice External Assessments 3

STATISTICAL REPORTS

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D & D Resources Ltd
P O Box 8
WAIHI BEACH 3642

Phone (07) 862 8599
Email admin@ddresources.co.nz
Web www.ddresources.co.nz
(orders, queries and feedback)

Cover design: D & D Resources Ltd.
Image: depositphotos.com.
Author: livejournalist.guseff@gmail.com

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NCEA 3 Statistics

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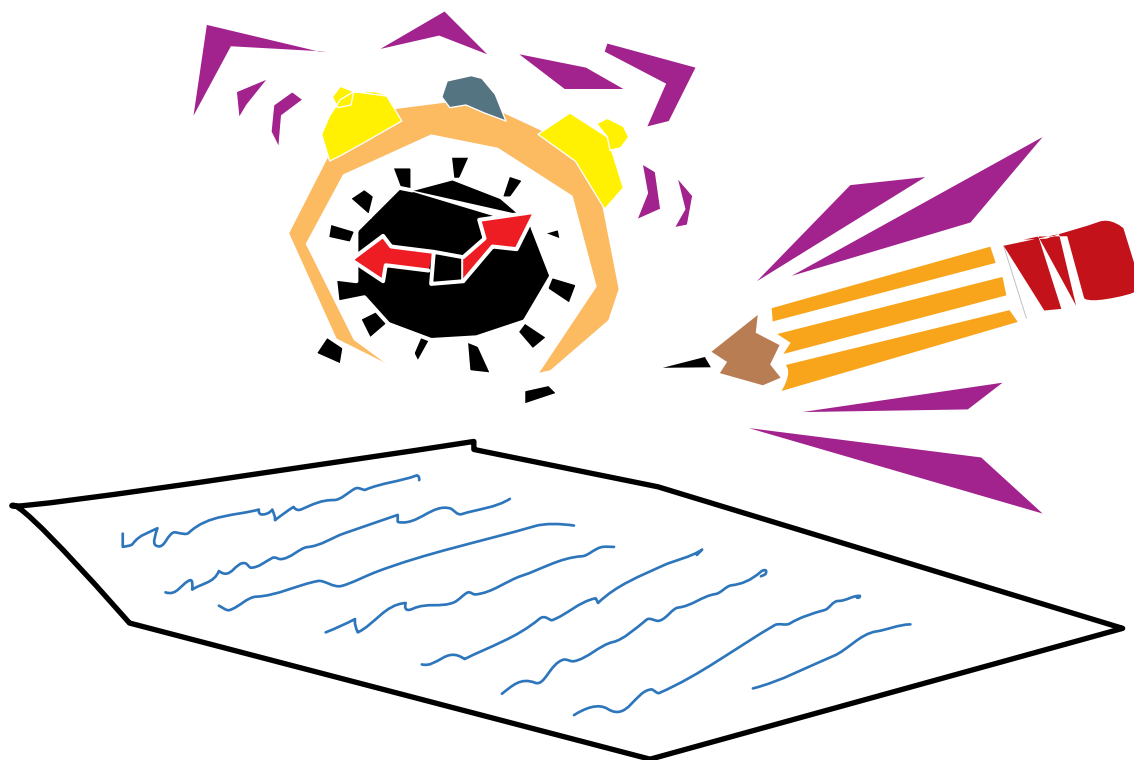
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The questions in the practice assessments are NOT in order of difficulty. Attempt all questions or you may not provide enough evidence to achieve the required standard.

Achievement Standard

91584

Evaluate Statistically Based Reports

Achievement	Achievement with Merit	Achievement with Excellence
Evaluate statistically based reports.	Evaluate statistically based reports, with justification.	Evaluate statistically based reports, with statistical insight.

- ◆ This achievement standard is derived from Level 8 of The New Zealand Curriculum and is related to the achievement objectives
 - ❖ Evaluate a wide range of statistically based reports, including surveys and polls, experiments, and observational studies:
 - critiquing causal-relationship claims
 - interpreting margins of error.
- ◆ Evaluate statistically based reports involves identifying and commenting on key features in reports relevant to any conclusions made in those reports.
- ◆ Evaluate statistically based reports, with justification involves supporting the comments made by referring to statistical evidence and processes described in reports, relevant to conclusions made in those reports.
- ◆ Evaluate statistically based reports, with statistical insight involves integrating statistical and contextual information to assess the quality of reports with respect to conclusions made in those reports.
- ◆ Evaluating statistical reports requires familiarity with:
 - ❖ the statistical enquiry cycle
 - ❖ principles of experimental design
 - ❖ surveys and polls, including potential sources of bias
 - ❖ interpreting statistical inferences
 - ❖ interpreting a wide variety of statistical tables and graphs
 - ❖ analysing a wide variety of statistical situations
 - ❖ critiquing causal-relationship claims
 - ❖ interpreting margins of error.

You are advised to spend 60 minutes answering this assessment.

You should show ALL working and answer ALL parts of ALL questions.

QUESTION ONE

AFRAID OF HEIGHTS? YOU'RE NOT ALONE

by William Jordan in Editor's picks, Front Page and Life. (Source: yougov.co.uk)

YouGov reveals what scares Britain (heights) – and what doesn't (clowns).

Britain may well take pride in keeping a stiff upper lip, but according to a new survey by YouGov there are a few things that can still make most of us tremble.

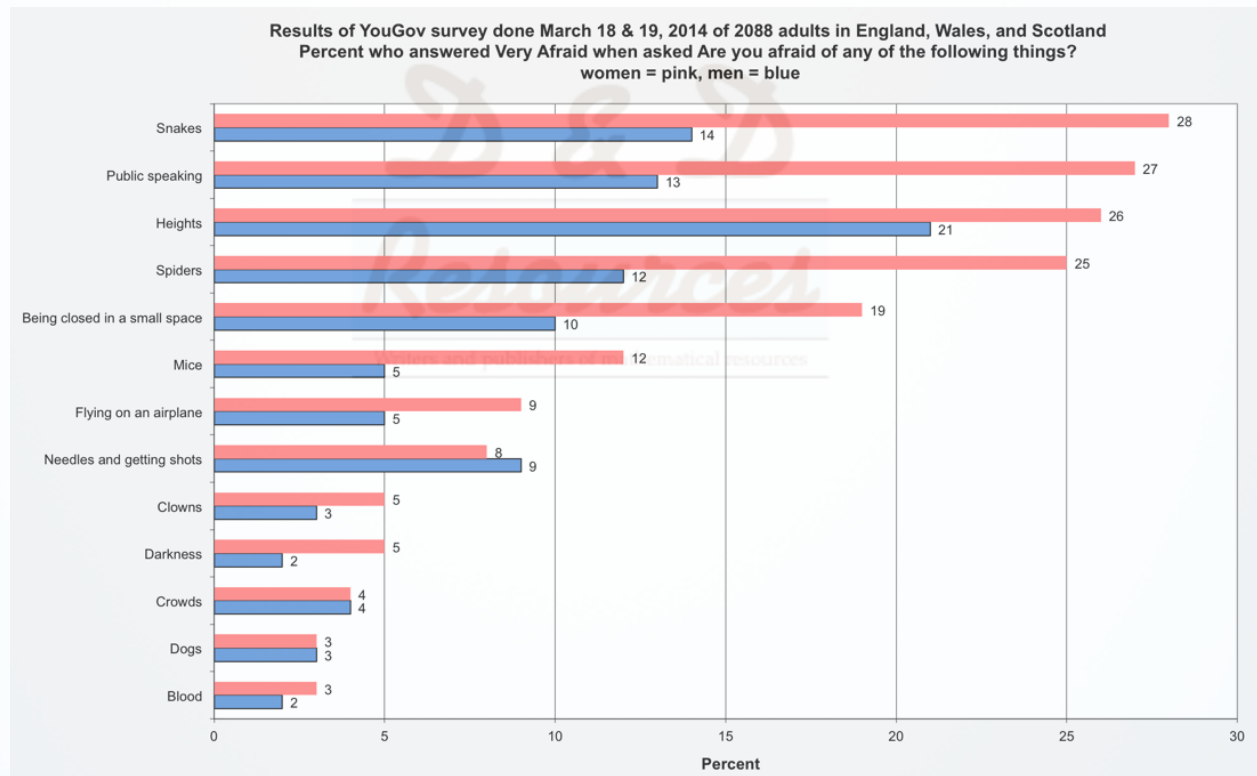
The survey presented respondents with 13 common phobias and asked them just how fear-inducing each one is. Three fears stood out for making the majority of British adults at least “a little” afraid – namely heights, snakes and public speaking. A fear of heights, also known as acrophobia or vertigo, to some degree afflicts nearly 58%, including nearly a quarter of the public who are “very afraid” of being in high places.

Darkness, blood, dogs and clowns come last on the list of fears.

The online survey was conducted in Britain on a sample of 2088 adults (1075 women and 1013 men). Those people were asked about the following 13 different fearful situations:

Being in a closed space, Blood, Clowns, Crowds, Darkness, Dogs, Flying in an airplane, Heights, Mice, Needles and getting shots, Public speaking, Snakes, Spiders.

They were asked if they were: a) Not afraid at all, b) Not really afraid, c) A little afraid, d) Very afraid



	Gender		Age				Social Grade		Region					
	Total	Male	Female	18-24	25-39	40-59	60+	ABC1	C2DE	London	Rest of South	Midlands / Wales	North	Scotland
Weighted Sample	2088	1013	1075	248	528	714	597	1190	898	267	679	447	514	182
Unweighted Sample	2088	999	1089	210	480	841	557	1367	721	293	622	439	462	272
	%	%	%	%	%	%	%	%	%	%	%	%	%	%



(i) What was the possible factor?

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(a) What is the sample frame for this survey?

(b) A margin of error is not quoted in the article.

1. Calculate an applicable margin of error for the survey.

2. Explain what the margin error would mean in the context of the headline statistic.

(c) The survey reports that the percentage of females using mobile applications to manage money increased by 10% (9% to 19%) from 2012 to 2013. The number of females sampled in the 2012 sample was 265 and 240 in the 2013 sample. Find the margin of error for the difference between these two polls. What conclusions can you draw?

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Answers – 91584

PEA 3

THREE				
(d) cont...	High response rates. One of the main reasons why researchers achieve good response rates through this method is the face-to-face nature of the personal interview survey. Unlike administering questionnaires, people are more likely to readily answer live questions about the subject (for instance, a product) simply because they can actually see, touch, feel or even taste the product. Longer interviews. If you wish to probe the answers of the respondents, you may do so using a personal interview approach. Open-ended questions are more tolerated through interviews due to the fact that the respondents would be more confident at expressing their long answers orally than in writing. Disadvantages - High costs Face-to-face interview surveys are considerably more expensive than paper-and-pencil questionnaire surveys, online surveys and other types of surveys. Time consuming Personal interview surveys are not usually time-bounded, so the gathering of data from the respondents can take a longer time. Another thing that makes this method time-consuming is when there is a need to travel and meet the respondents at either single or different locations.	adequate explanation of one advantage and one disadvantage of face to face surveys.	adequate explanation of two advantages and two disadvantages of face to face surveys.	detailed explanation of two advantages and two disadvantages of face to face surveys with justification.

Marking Schedule for Questions 1, 2 and 3

N1	N2	A3	A4	M5	M6	E7	E8
One partial solution	1 of A	2 of A	3 of A	1 of M	2 of M	1 of E	2 of E