THE ALSPAC STUDY

SK FILE

DATA COLLECTED FROM THE YEAR 8 MATHS ASSESSMENT

Administered in schools

Prepared by

The ALSPAC Study Team

Documentation giving frequencies, background and instructions for use.

Last updated for version 1b of the built file (partial update only).

December 2008

Contents

Introduction and Methodology

Background

In order to investigate the hypothesis that the performance of some children in mathematics is disrupted by the transition from primary to secondary education it was decided to repeat the Year 6 maths assessment (see the SH built file) in Year 8. A pilot was conducted in order to check that the assessment would not be invalidated on Year 8 children by a significant ceiling effect. This was conducted at a willing secondary school that was reasonably close to Bristol but did not have any study children in Year 8 and it was found that there was a broad range in the accuracy of responses. The ALSPAC cohort is split across three academic years (see Table 1). It was decided to only administer the assessment to the middle cohort, as that would give a large enough sample to investigate the hypothesis. It was therefore administered during the academic year ending in the summer of 2005.

Table 1: Coding of school years on ALSPAC data files and expected progress of the ALSPAC cohort according to their dates of birth

School year	Code	Expected position of ALSPAC children born between:		
		April 1991 & August 1991	September 1991 & August 1992	September 1992 & January 1993
1995 / 1996	1	Reception	-	-
1996 / 1997	2	Year 1	Reception	-
1997 / 1998	3	Year 2	Year 1	Reception
1998 / 1999	4	Year 3	Year 2	Year 1
1999 / 2000	5	Year 4	Year 3	Year 2
2000 / 2001	6	Year 5	Year 4	Year 3
2001 / 2002	7	Year 6	Year 5	Year 4
2002 / 2003	8	Year 7	Year 6	Year 5
2003 / 2004	9	Year 8	Year 7	Year 6
2004 / 2005	10	Year 9	Year 8	Year 7
2005 / 2006	11	Year 10	Year 9	Year 8
2006 / 2007	12	Year 11	Year 10	Year 9
2007 / 2008	13	-	Year 11	Year 10
2008 / 2009	14	-	-	Year 11

Contents

The maths assessment for Year 8 children is identical to the maths assessment for Year 6 children. It was devised by Terezinha Nunes and Peter Bryant and contains 19 questions, many of which have multiple parts.

Administration
From each of the relevant schools in Avon (i.e. those in the areas covered by the Bristol, South Gloucestershire, North Somerset and Bath & Northeast Somerset local education authorities) a list of children in Year 8, containing names and dates of birth, was requested at the beginning of the relevant academic years. Note that all schools in the BANES LEA were included even though, geographically speaking, only a small part of that LEA was actually in the ALSPAC enrolment area. In addition 17 schools just outside of the four local LEAs with >30 children eligible for ALSPAC in Year 8 were also contacted in the same way. This replaced the contact via mothers that was used for children outside of the four local LEAs in previous ALSPAC schools data collections.

The children on the class lists were given numbers, regardless of whether they were known to ALSPAC or not. These numbers consisted of 6 or 7 digits. The first 4 digits identified the school (with the first digit indicating education authority) and the final 2 or 3 digits identified the child within the school. These numbers were added to the list of names, which was then returned to the school with the appropriate number of test booklets during the summer term.

The child was asked to enter their name on page 1 of the answer booklet and the date of the test and their school, class and date of birth on page 2. Reminder letters were sent out to head teachers if, after an appropriate interval, the completed questionnaires had not been returned. On receipt of the completed booklets, the children were identified on the class lists and the appropriate numeric ID applied to the front of the booklet. The page containing the name was then removed and destroyed.

Permissions
Permission to link data collected from schools to general ALSPAC data was originally sought from the accompanying adult at the Focus@7 clinic. However, in May 2003 the ALSPAC Ethics & Law Committee decided that in line with the data protection act it was not necessary for ALSPAC to obtain written consent before using the data, but that data on children for whom permission was actually refused at the Focus@7 clinic or for whom permission was subsequently withdrawn should not be used. At the time of writing there are 15 children for whom ALSPAC has such refusals.

Linking
The tests were linked to the lists of children provided by the schools by the questionnaire number (school / child), using date of birth and gender as a check. Some instances of teachers transposing questionnaire numbers were identified and corrected. The lists were then linked to ALSPAC identifiers using names and dates of birth.

Multiple Records
There were no multiple records returned for any ALSPAC eligible children.

Data Processing
The contents of the answer booklets were transcribed to a form (see Appendix A) by student coders following set guidelines (see Appendix B). Unfortunately the date of test and date of birth of the child were not transcribed so it has not been possible to derive an age at testing.

Although not designed specifically for scanning the forms were captured using ALSPAC's document scanning system. The use of code 'X' in many fields meant that the system was set to accept any character resulting in frequent letter / number confusion. In order to

resolve this, the recodes detailed in Table 2 were automatically applied to correct frequently occurring letters to numbers. This was done after some piloting involving looking up a sample of occurrences. Any remaining spurious letters were checked manually.

Table 2: Automatic recodes applied to correct numbers misread as letters

Letter(s)	Number
c, C, D, o, O, Q	0
i, I, l	1
z, Z	2
J	3
s, S	5
B	8
q	9
x	X

Response Rates

A total of 5,203 answer booklets were received back. 4 of these records do not appear on this built file because they are about children for whom permission was refused. This leaves 5,199 records, of which 3,385 are for children eligible for ALSPAC and after exclusion of data for triplets/quadruplets 3,382 appear on this built file.

Response rates for the maths assessment in each academic year for the local schools are displayed in Table 3.

Table 3: School level response rates

Schools invited to participate	83*
No response (% of those invited)	24 (29%)
Refused to participate (% of those invited)	9 (11%)
Schools sent packs (% of those invited)	50 (60%)
Returned at least 1 copy of the maths assessment (% of those sent packs)	38 (76%)
Overall response rate (% of schools invited that returned at least 1 copy of the maths assessment)	46%

* In addition 11 special schools were also contacted but none had pupils able to do the maths tests.

Sample

There are a total of 15,387 records on this file. This number is made up of the 14,676 fetuses in the core ALSPAC sample (regardless of whether or not the test data is available for them) plus 711 records for children eligible for ALSPAC but not in the core sample for whom test booklets were returned. A further 1,814 records for children not eligible for ALSPAC for whom test booklets were returned are not presented on this built file.

Of the 14,676 fetuses in the core ALSPAC sample, 14,062 were live born. The maths test data are available for 2,674 (19%) of these live born children. For further information on the ALSPAC sample, please see section 5 of the "Guide to ALSPAC data" which can be found in the "Collaborator Pack" on the ALSPAC documentation CD.

File version history

Built version 1a – September 2008

The first published version of this data file.

Built version 1b – December 2008

Due to the extension of direct access to ALSPAC data to non-ALSPAC staff and in order to comply with guidance issued in 1996 by the ALSPAC Law & Ethics Committee regarding the confidentiality of multiple pregnancies SK001 has been recoded to 2 "No" for the 3 children from triplet and quadruplet pregnancies for whom test data are available and all other variables set to -11/-111 as appropriate. Note that all 3 of the triplet/quadruplet children are in the core sample.

Note that the frequency tables have not been updated to reflect these changes.

Identifier Variables

ALN & QLET

These are the standard ALSPAC child identifiers and are only available for records belonging to children who have been identified as being eligible for ALSPAC.

Y8SCH

ALSPAC has devised a unique 9-digit identifier for schools called ALSPSCID, which is derived from the official DfES identifier set. Although schools will (generally) keep the same value of ALSPSCID across time, since children have the potential to move between schools, any indicator of which school a child is in is time dependent. Variable Y8SCH contains the appropriate values of ALSPSCID for each child when the Year 8 maths assessments were administered.

Y8YEAR

This is the school year in which the data on each child were collected:

y8year School year in which Year 8 data were collected

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10 2004 / 2005	3385	100.0	100.0	100.0

Administrative Variables

Data availability

Variable SK001 indicates whether or not the maths test data is available for each case. If this variable equals 2 ('No') then all other variables on this file (except for ALN & QLET) are set to -10.

sk001 Data available

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3385	22.0	22.0	22.0
	2 No	12002	78.0	78.0	100.0
	Total	15387	100.0	100.0	

Region of Education

This is an indicator as to whether the school from which the data were collected was in one of the four local LEAs (Bristol, South Gloucestershire, North Somerset and Bath & Northeast Somerset) or not. Note that non local schools are all in England & Wales and are close to the boundary of the four local LEAs.

sk003a Education region

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Local	3169	93.6	93.6	93.6
	2 Not local	216	6.4	6.4	100.0
	Total	3385	100.0	100.0	

Type of School

sk004 Type of school

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4 Private	548	16.2	16.2	16.2
	5 Maintained secondary	2837	83.8	83.8	100.0
	Total	3385	100.0	100.0	

Education Authority

This information is only available for children attending local maintained secondary schools.

sk005 Education authority

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Bristol	743	21.9	28.3	28.3
	2 Bath & North East Somerset	330	9.7	12.6	40.9
	3 South Gloucestershire	778	23.0	29.7	70.6
	4 North Somerset	770	22.7	29.4	100.0
	Total	2621	77.4	100.0	
Missing	-3 Private	548	16.2		
	-2 Not local	216	6.4		
	Total	764	22.6		
Total		3385	100.0		

Child is in Correct School Year

An indicator of whether the child was in the correct year according to their date of birth (see table 1) at the time of the Year 8 data collection was derived as SK006:

sk006 Child is in correct school year

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2998	88.6	88.6	88.6
	2 No	387	11.4	11.4	100.0
	Total	3385	100.0	100.0	

PAGE 1 OF THE TEACHER'S BOOKLET

An assessment of the development of

mathematical concepts

Teacher's administration booklet

MATHS ASSESSMENT

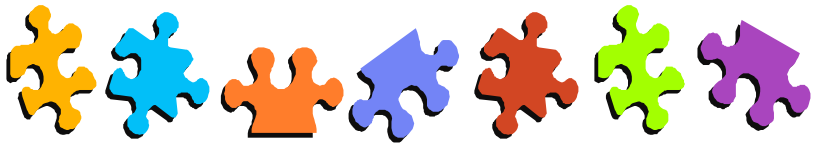
FOR 10 AND 11 YEAR OLDS

This is designed especially for the Children of the 90s. It is not like the national assessments and is aimed at identifying different concepts. Your children will hopefully find it interesting and fun.

All the children have their own answer booklet. Please read the instructions and allow the children enough time to attempt each question. If you feel you need to rephrase any instructions, feel free to do so as long as you ensure that you are not giving the children extra clues.

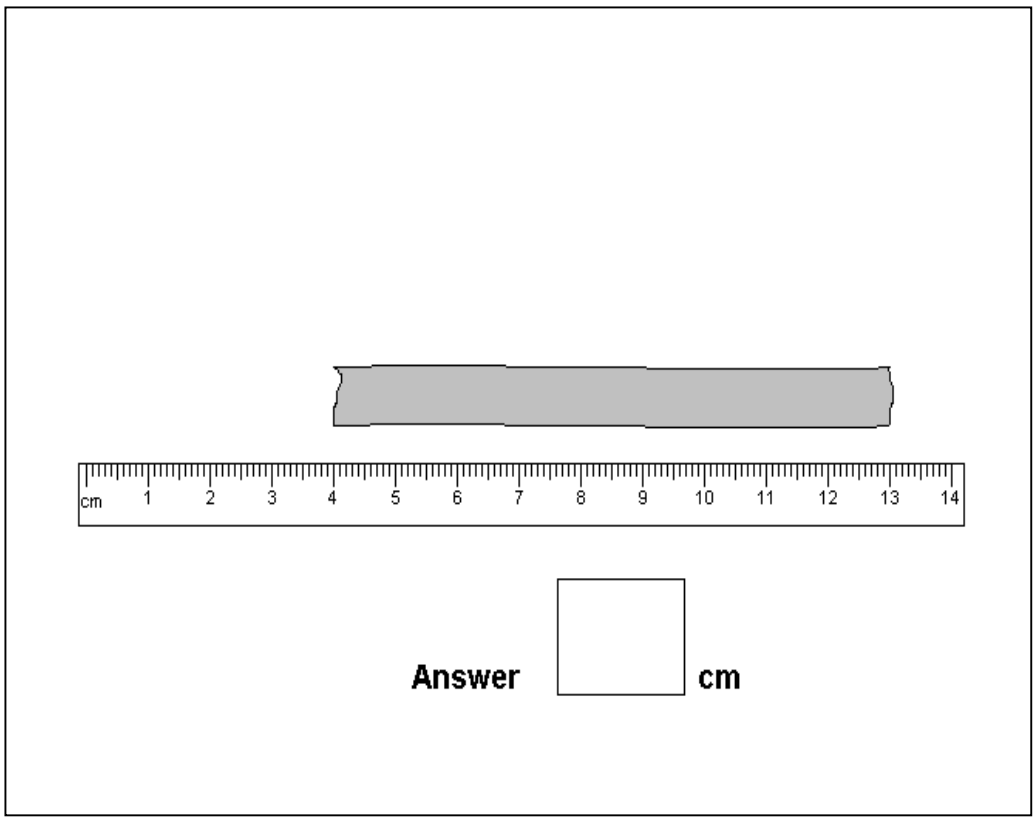
Please make sure that each child has a pencil and that there are no rulers on the tables before you start the assessment.

Thank you



 June 2002

PAGE 2 OF THE TEACHER'S BOOKLET



Make sure there are no rulers on the table before this question is asked)

Here is a picture of a ribbon and a ruler.

How long is the ribbon?

Use the ruler in the picture to help you find out.

Write your answer in the empty box.

[Editing: The response recorded on the coding sheet is presented as SK021, with XX recoded to -2 and blanks to -6. An indicator of whether the child got the answer correct was derived as SK020 by recoding (9 = 1)(else = 2) in SK021. An indicator of whether the child attempted the question was derived as SK022 by recoding (-6 = 2)(else = 1) in SK021.]

sk020 Question 1 (ribbon length) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2795	82.6	82.6	82.6
	2 No	590	17.4	17.4	100.0
	Total	3385	100.0	100.0	

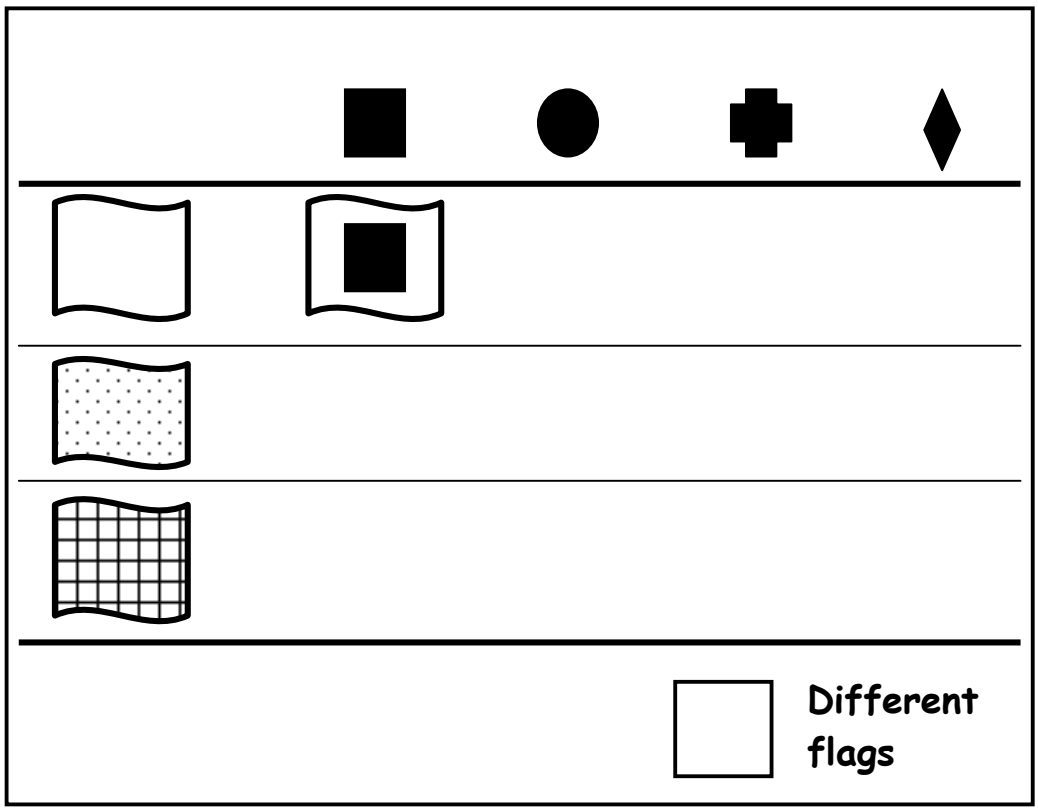
sk021 Question 1 (ribbon length): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	1	.0	.0	.0
	7	6	.2	.2	.2
	8	11	.3	.3	.5
	9	2795	82.6	83.7	84.2
	10	472	13.9	14.1	98.4
	11	8	.2	.2	98.6
	12	2	.1	.1	98.7
	13	30	.9	.9	99.6
	17	7	.2	.2	99.8
	18	1	.0	.0	99.8
	53	1	.0	.0	99.8
	89	4	.1	.1	99.9
	90	2	.1	.1	100.0
	Total	3340	98.7	100.0	
Missing	-6 Question 1 omitted	13	.4		
	-2 Other response	32	.9		
	Total	45	1.3		
Total		3385	100.0		

sk022 Question 1 (ribbon length) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3372	99.6	99.6	99.6
	2 No	13	.4	.4	100.0
	Total	3385	100.0	100.0	

PAGE 3 OF THE TEACHER'S BOOKLET



At Pear Tree School they have three different types of material that the students can use to make as many flags as they need. One is plain, one has some dots, and the third has squares.

The teacher brought boxes with 4 different figures for the children to paste on the centre of the flags. The teacher wants the children to make as many different flags as they can.

Imran has made one flag using plain material and a square figure.

How many different flags can the children make? Write your answer in the box.

[Editing: The response recorded on the coding sheet is presented as SK030, with XX recoded to -2 and blanks to -6. An indicator of whether the child got the answer correct was derived as SK030 by recoding (12 = 1)(else = 2) in SK031. An indicator of whether the child attempted the question was derived as SK032 by recoding (-6 = 2)(else = 1) in SK031.]

sk030 Question 2 (# flags) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2195	64.8	64.8	64.8
	2 No	1190	35.2	35.2	100.0
	Total	3385	100.0	100.0	

sk032 Question 2 (# flags) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3342	98.7	98.7	98.7
	2 No	43	1.3	1.3	100.0
	Total	3385	100.0	100.0	

sk031 Question 2 (# flags): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	.1	.1	.1
	2	4	.1	.1	.2
	3	28	.8	.8	1.0
	4	42	1.2	1.3	2.3
	5	7	.2	.2	2.5
	6	9	.3	.3	2.8
	7	20	.6	.6	3.4
	8	9	.3	.3	3.7
	9	6	.2	.2	3.8
	10	9	.3	.3	4.1
	11	151	4.5	4.5	8.6
	12	2195	64.8	65.7	74.3
	13	18	.5	.5	74.9
	14	13	.4	.4	75.2
	15	759	22.4	22.7	98.0
	16	27	.8	.8	98.8
	17	1	.0	.0	98.8
	18	2	.1	.1	98.9
	19	6	.2	.2	99.0
	20	5	.1	.1	99.2
	21	5	.1	.1	99.3
	22	1	.0	.0	99.4
	24	4	.1	.1	99.5
	25	2	.1	.1	99.6
	26	1	.0	.0	99.6
	27	1	.0	.0	99.6
	28	2	.1	.1	99.7
	29	1	.0	.0	99.7
	33	1	.0	.0	99.7
	36	3	.1	.1	99.8
	37	1	.0	.0	99.9
	45	1	.0	.0	99.9
	64	1	.0	.0	99.9
	74	1	.0	.0	99.9
	75	1	.0	.0	100.0
	82	1	.0	.0	100.0
	Total	3341	98.7	100.0	
Missing	-6 Question 2 omitted	43	1.3		
	-2 Other response	1	.0		
	Total	44	1.3		
Total		3385	100.0		

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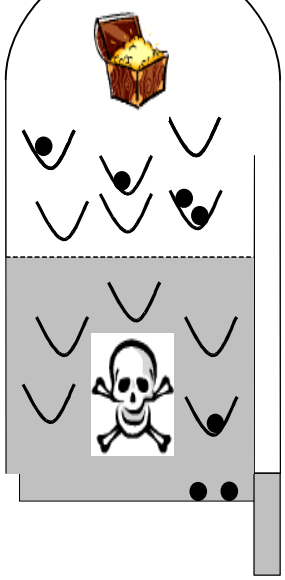

Won 4 points

Lost 1 point

No points on 2 pinballs

Game 1

In the pinball game, you win one point for each pinball that falls into the top area, where there is a treasure. Look at game 1. There are 4 pinballs in the treasure area.

You lose one point for each pinball that falls into the bottom area, where there is a skull. Look at game 1. There is one pinball in the skull area.

If your pinballs fall into the tube, you do not score. Look at game 1. There are 2 pinballs in the tube.

What is the score for this game? Write your answer on the line.

[Editing: The response recorded on the coding sheet is presented as SK041, with XX recoded to -2 and blanks to -6. An indicator of whether the child got the answer correct was derived as SK040 by recoding (3 = 1)(else = 2) in SK041. An indicator of whether the child attempted the question was derived as SK042 by recoding (-6 = 2)(else = 1) in SK041.]

sk040 Question 3 (pinball 1) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2938	86.8	86.8	86.8
	2 No	447	13.2	13.2	100.0
	Total	3385	100.0	100.0	

sk041 Question 3 (pinball 1): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	16	.5	.5	.5
	1	95	2.8	2.9	3.3
	2	22	.6	.7	4.0
	3	2938	86.8	88.2	92.2
	4	120	3.5	3.6	95.8
	5	19	.6	.6	96.4
	6	3	.1	.1	96.5
	7	17	.5	.5	97.0
	8	1	.0	.0	97.0
	9	1	.0	.0	97.1
	11	2	.1	.1	97.1
	12	3	.1	.1	97.2
	13	5	.1	.2	97.4
	14	1	.0	.0	97.4
	15	76	2.2	2.3	99.7
	16	4	.1	.1	99.8
	17	5	.1	.2	99.9
	63	1	.0	.0	100.0
	77	1	.0	.0	100.0
	Total	3330	98.4	100.0	
Missing	-6 Question 3 omitted	51	1.5		
	-2 Other response	4	.1		
	Total	55	1.6		
Total		3385	100.0		

sk042 Question 3 (pinball 1) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3334	98.5	98.5	98.5
	2 No	51	1.5	1.5	100.0
	Total	3385	100.0	100.0	

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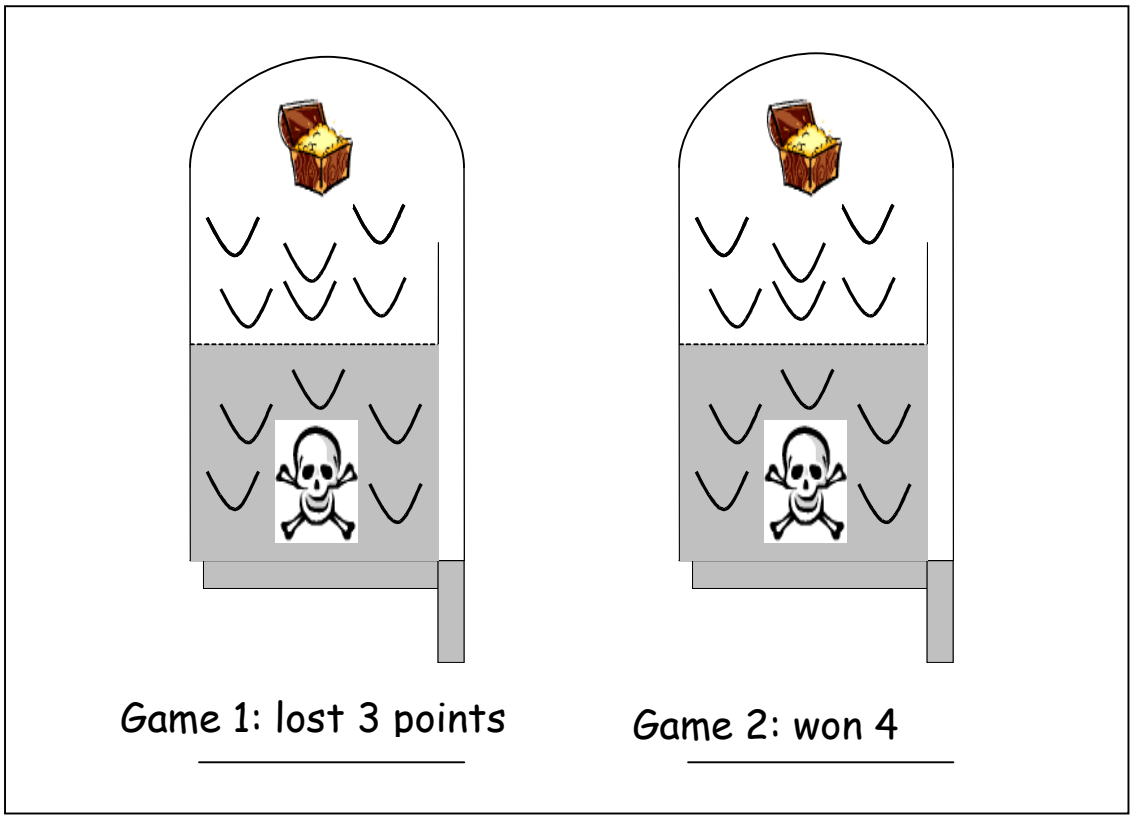

Ali played 2 games. When he played Game 1, he lost 3 points. Draw in the 7 pinballs to make him end with a losing score of 3 points.

When he played Game 2 he won 4 points. Draw in the 7 pinballs to make him end with a winning score of 4.

[Editing: The responses recorded on the coding sheet are presented as SK053 to SK055 for game 1 and SK063 to SK065 for game 2, with X recoded to -2 and blanks to -1. If all six responses were omitted then the variables were set to -6 and if all three variables for either game 1 or game 2 were omitted the relevant variables were set to -5. Otherwise, values of -1 were recoded to 0.

A variable for the total numbers of balls drawn in game 1 was calculated as SK056 by summing SK053 to SK055. SK056 was set to -2 if any of SK053 to SK055 were -2 and values of -6 and -5 were copied across. A variable for the total numbers of balls drawn in game 2 was calculated as SK066 in a similar manner.

A variable for the total score of the balls drawn in game 1 was calculated as SK051 = SK053 - SK054. Missing values of -6 and -5 were copied across as -106 and -105 respectively and if SK056 did not equal 7 then SK051 was set to -2. A variable for the total score of the balls drawn in game 2 was calculated as SK061 in a similar manner.

An indicator of whether the child drew a correct combination of balls in game 1 was derived as SK050 by recoding (-3 = 1)(else = 2) in SK051. Similarly, an indicator of whether the child drew a correct combination of balls in game 2 was derived as SK060 by recoding (4 = 1)(else = 2) in SK061. Indicators of whether the child attempted each part of the question were derived as SK052 and SK062 by recoding (-106, -105 = 2)(else = 1) in SK051 and SK061.]

sk050 Question 4, part 1 (pinball 2, game 1) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	1616	47.7	47.7	47.7
	2 No	1769	52.3	52.3	100.0
	Total	3385	100.0	100.0	

sk051 Question 4, part 1 (pinball 2, game 1): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-7	9	.3	.3	.3
	-6	2	.1	.1	.4
	-5	17	.5	.6	1.0
	-4	14	.4	.5	1.5
	-3	1616	47.7	56.2	57.6
	-2	24	.7	.8	58.5
	-1	163	4.8	5.7	64.1
	0	198	5.8	6.9	71.0
	1	518	15.3	18.0	89.0
	2	33	1.0	1.1	90.2
	3	253	7.5	8.8	99.0
	4	21	.6	.7	99.7
	5	7	.2	.2	99.9
	7	2	.1	.1	100.0
	Total	2877	85.0	100.0	
Missing	-106 Question 4 omitted	58	1.7		
	-105 Part 1 omitted	23	.7		
	-102 Did not draw 7 balls	427	12.6		
	Total	508	15.0		
Total		3385	100.0		

sk052 Question 4, part 1 (pinball 2, game 1) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3304	97.6	97.6	97.6
	2 No	81	2.4	2.4	100.0
	Total	3385	100.0	100.0	

sk053 Question 4, part 1 (pinball 2, game 1): # balls drawn in white area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1105	32.6	33.5	33.5
	1	323	9.5	9.8	43.3
	2	564	16.7	17.1	60.3
	3	412	12.2	12.5	72.8
	4	684	20.2	20.7	93.5
	5	168	5.0	5.1	98.6
	6	21	.6	.6	99.3
	7	22	.6	.7	99.9
	8	2	.1	.1	100.0
	Total	3301	97.5	100.0	
Missing	-6 Question 4 omitted	58	1.7		
	-5 Part 1 omitted	23	.7		
	-2 > 9	3	.1		
	Total	84	2.5		
Total		3385	100.0		

sk054 Question 4, part 1 (pinball 2, game 1): # balls drawn in grey area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	80	2.4	2.4	2.4
	1	131	3.9	4.0	6.4
	2	214	6.3	6.5	12.9
	3	1896	56.0	57.4	70.3
	4	424	12.5	12.8	83.1
	5	519	15.3	15.7	98.8
	6	21	.6	.6	99.5
	7	16	.5	.5	100.0
	8	1	.0	.0	100.0
	Total	3302	97.5	100.0	
Missing	-6 Question 4 omitted	58	1.7		
	-5 Part 1 omitted	23	.7		
	-2 > 9	2	.1		
	Total	83	2.5		
Total		3385	100.0		

sk055 Question 4, part 1 (pinball 2, game 1): # balls drawn in tube

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1561	46.1	47.2	47.2
	1	281	8.3	8.5	55.8
	2	407	12.0	12.3	68.1
	3	83	2.5	2.5	70.6
	4	950	28.1	28.8	99.3
	5	20	.6	.6	99.9
	6	1	.0	.0	100.0
	7	1	.0	.0	100.0
	Total	3304	97.6	100.0	
Missing	-6 Question 4 omitted	58	1.7		
	-5 Part 1 omitted	23	.7		
	Total	81	2.4		
Total		3385	100.0		

sk056 Question 4, part 1 (pinball 2, game 1): Total # balls drawn

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	.1	.1	.1
	2	3	.1	.1	.2
	3	151	4.5	4.6	4.8
	4	19	.6	.6	5.4
	5	24	.7	.7	6.1
	6	63	1.9	1.9	8.0
	7	2877	85.0	87.2	95.2
	8	87	2.6	2.6	97.8
	9	27	.8	.8	98.7
	10	25	.7	.8	99.4
	11	12	.4	.4	99.8
	12	4	.1	.1	99.9
	13	3	.1	.1	100.0
	Total	3299	97.5	100.0	
Missing	-6 Question 4 omitted	58	1.7		
	-5 Part 1 omitted	23	.7		
	-2 Other number (> 9)	5	.1		
	Total	86	2.5		
Total		3385	100.0		

sk060 Question 4, part 2 (pinball 2, game 2) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2088	61.7	61.7	61.7
	2 No	1297	38.3	38.3	100.0
	Total	3385	100.0	100.0	

sk061 Question 4, part 2 (pinball 2, game 2): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-7	2	.1	.1	.1
	-5	1	.0	.0	.1
	-4	2	.1	.1	.2
	-3	4	.1	.1	.3
	-2	20	.6	.7	1.1
	-1	12	.4	.4	1.5
	0	3	.1	.1	1.6
	1	375	11.1	13.8	15.4
	2	63	1.9	2.3	17.7
	3	106	3.1	3.9	21.6
	4	2088	61.7	76.6	98.1
	5	34	1.0	1.2	99.4
	6	3	.1	.1	99.5
	7	14	.4	.5	100.0
	Total	2727	80.6	100.0	
Missing	-106 Question 4 omitted	58	1.7		
	-105 Part 2 omitted	76	2.2		
	-102 Did not draw 7 balls	524	15.5		
	Total	658	19.4		
Total		3385	100.0		

sk062 Question 4, part 2 (pinball 2, game 2) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3251	96.0	96.0	96.0
	2 No	134	4.0	4.0	100.0
	Total	3385	100.0	100.0	

sk063 Question 4, part 2 (pinball 2, game 2): # balls drawn in white area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	16	.5	.5	.5
	1	37	1.1	1.1	1.6
	2	48	1.4	1.5	3.1
	3	47	1.4	1.4	4.6
	4	1856	54.8	57.1	61.6
	5	1107	32.7	34.1	95.7
	6	113	3.3	3.5	99.2
	7	26	.8	.8	100.0
	8	1	.0	.0	100.0
	Total	3251	96.0	100.0	
Missing	-6 Question 4 omitted	58	1.7		
	-5 Part 2 omitted	76	2.2		
	Total	134	4.0		
Total		3385	100.0		

sk064 Question 4, part 2 (pinball 2, game 2): # balls drawn in grey area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1468	43.4	45.2	45.2
	1	1093	32.3	33.6	78.8
	2	226	6.7	7.0	85.7
	3	388	11.5	11.9	97.7
	4	61	1.8	1.9	99.5
	5	12	.4	.4	99.9
	7	3	.1	.1	100.0
	Total	3251	96.0	100.0	
Missing	-6 Question 4 omitted	58	1.7		
	-5 Part 2 omitted	76	2.2		
	Total	134	4.0		
Total		3385	100.0		

sk065 Question 4, part 2 (pinball 2, game 2): # balls drawn in tube

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	864	25.5	26.6	26.6
	1	1079	31.9	33.2	59.8
	2	72	2.1	2.2	62.0
	3	1180	34.9	36.3	98.3
	4	24	.7	.7	99.0
	5	2	.1	.1	99.1
	6	28	.8	.9	99.9
	7	1	.0	.0	100.0
	8	1	.0	.0	100.0
	Total	3251	96.0	100.0	
Missing	-6 Question 4 omitted	58	1.7		
	-5 Part 2 omitted	76	2.2		
	Total	134	4.0		
Total		3385	100.0		

sk066 Question 4, part 2 (pinball 2, game 2): Total # balls drawn

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	.1	.1	.1
	2	4	.1	.1	.2
	3	15	.4	.5	.7
	4	196	5.8	6.0	6.7
	5	21	.6	.6	7.4
	6	103	3.0	3.2	10.6
	7	2727	80.6	83.9	94.4
	8	133	3.9	4.1	98.5
	9	22	.6	.7	99.2
	10	18	.5	.6	99.8
	11	5	.1	.2	99.9
	12	2	.1	.1	100.0
	13	1	.0	.0	100.0
	Total	3251	96.0	100.0	
Missing	-6 Question 4 omitted	58	1.7		
	-5 Part 2 omitted	76	2.2		
	Total	134	4.0		
Total		3385	100.0		

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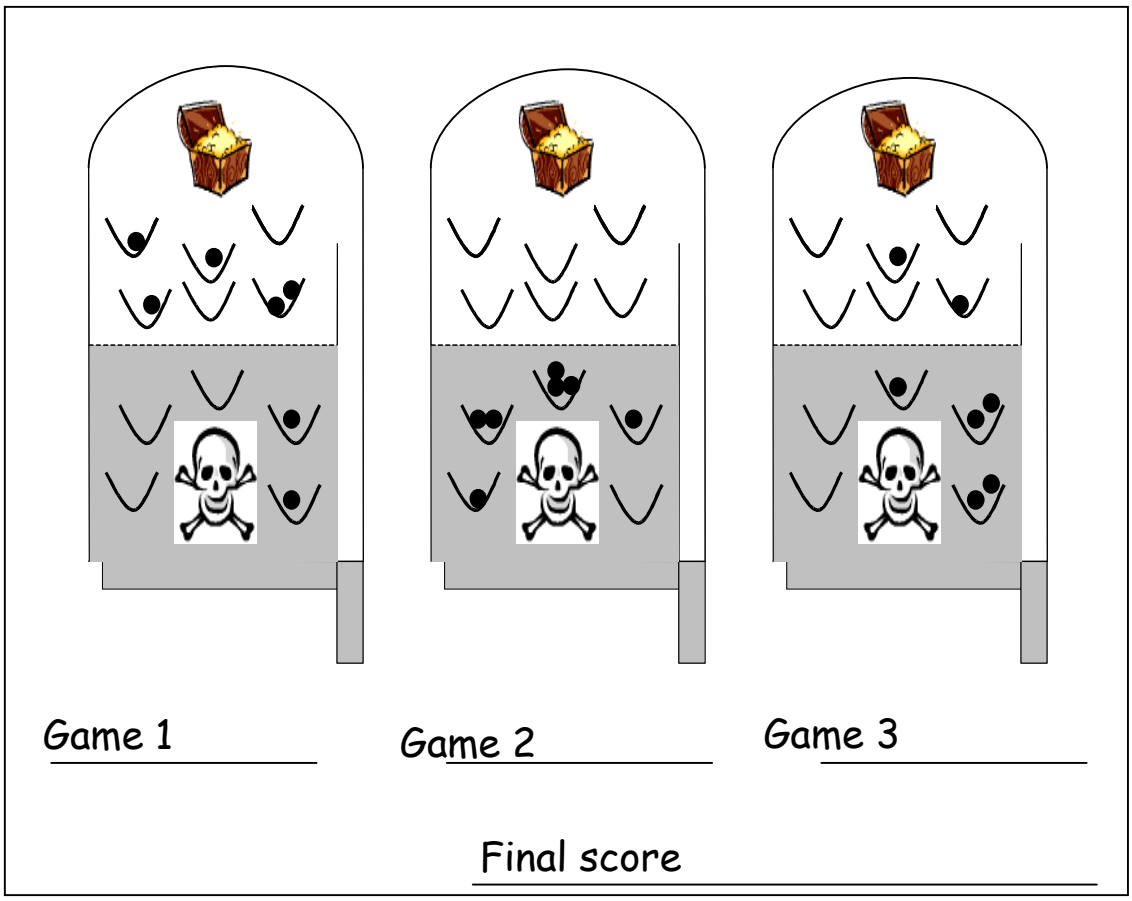


Sarah played 3 games. Look at the first game. What was her score for Game 1? Write your answer on the line for Game 1.

What was her score for Game 2? Write your answer on the line for Game 2.

What was her score for Game 3? Write your answer on the line for Game 3.

She wanted to know her final score counting all three games. What was her final score?

[Editing: The numerical components of the responses recorded on the coding sheet are presented as SK073, SK083, SK093 and SK103 for game 1, game 2, game 3 and the final score respectively, with XX recoded to -2 and blanks to -1. The sign components of the responses recorded on the coding sheet are presented as SK074, SK084, SK094 and SK104 for game 1, game 2, game 3 and the final score respectively, with W recoded to 1, L to 2 and blanks to -1. If all eight variables were omitted then they were set to -6 and if both variables for any of the four parts were omitted the relevant variables were set to -5.

A single variable for the response to game 1 was calculated as SK071 by multiplying SK073 by -1 if SK074 = 2. (It is therefore assumed that an absence of a sign indicates a positive score.) Missing values of -6, -5, -2 and -1 were copied across as -106, -105, -102 and -101 respectively. Single variables for the responses to game 2, game 3 and the final score were calculated as SK081, SK091 and SK101 in a similar manner.

An indicator of whether the child got the score correct for game 1 was derived as SK070 by recoding (3 = 1)(else = 2) in SK071. Similarly, indicators of whether the child got the score correct in game 2, game 3 and the final score were derived as SK080, SK090 and SK100 by recoding (-7 = 1)(else = 2) in SK081, (-3 = 1)(else = 2) in SK091 and (-7 = 1)(else = 2) in SK101. Indicators of whether the child attempted each part of the question were derived as SK072, SK082, SK092 and SK102 by recoding (-106, -105 = 2)(else = 1) in SK071 SK081, SK091 and SK101.]

sk070 Question 5, part 1 (pinball 3, game 1) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2807	82.9	82.9	82.9
	2 No	578	17.1	17.1	100.0
	Total	3385	100.0	100.0	

sk071 Question 5, part 1 (pinball 3, game 1): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-4	1	.0	.0	.0
	-3	11	.3	.3	.4
	-2	7	.2	.2	.6
	-1	1	.0	.0	.6
	0	1	.0	.0	.7
	1	8	.2	.2	.9
	2	15	.4	.5	1.4
	3	2807	82.9	86.9	88.3
	4	13	.4	.4	88.7
	5	240	7.1	7.4	96.1
	6	3	.1	.1	96.2
	7	10	.3	.3	96.5
	8	3	.1	.1	96.6
	10	4	.1	.1	96.7
	12	4	.1	.1	96.9
	13	1	.0	.0	96.9
	14	3	.1	.1	97.0
	16	1	.0	.0	97.0
	17	1	.0	.0	97.1
	18	82	2.4	2.5	99.6
	22	5	.1	.2	99.8
	24	1	.0	.0	99.8
	28	1	.0	.0	99.8
	63	4	.1	.1	99.9
	65	1	.0	.0	100.0
	83	1	.0	.0	100.0
	Total	3229	95.4	100.0	
Missing	-106 Question 5 omitted	59	1.7		
	-105 Part 1 omitted	95	2.8		
	-102 Other response	1	.0		
	-101 Sign only stated	1	.0		
	Total	156	4.6		
Total		3385	100.0		

sk072 Question 5, part 1 (pinball 3, game 1) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3231	95.5	95.5	95.5
	2 No	154	4.5	4.5	100.0
	Total	3385	100.0	100.0	

sk073 Question 5, part 1 (pinball 3, game 1): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	.0	.0	.0
	1	9	.3	.3	.3
	2	22	.6	.7	1.0
	3	2818	83.2	87.3	88.3
	4	14	.4	.4	88.7
	5	240	7.1	7.4	96.1
	6	3	.1	.1	96.2
	7	10	.3	.3	96.5
	8	3	.1	.1	96.6
	10	4	.1	.1	96.7
	12	4	.1	.1	96.9
	13	1	.0	.0	96.9
	14	3	.1	.1	97.0
	16	1	.0	.0	97.0
	17	1	.0	.0	97.1
	18	82	2.4	2.5	99.6
	22	5	.1	.2	99.8
	24	1	.0	.0	99.8
	28	1	.0	.0	99.8
	63	4	.1	.1	99.9
	65	1	.0	.0	100.0
	83	1	.0	.0	100.0
	Total	3229	95.4	100.0	
Missing	-6 Question 5 omitted	59	1.7		
	-5 Part 1 omitted	95	2.8		
	-2 > 99	1	.0		
	-1 Sign only stated	1	.0		
	Total	156	4.6		
Total		3385	100.0		

sk074 Question 5, part 1 (pinball 3, game 1): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	655	19.4	97.0	97.0
	2 Lost	20	.6	3.0	100.0
	Total	675	19.9	100.0	
Missing	-6 Question 5 omitted	59	1.7		
	-5 Part 1 omitted	95	2.8		
	-1 Score only stated	2556	75.5		
	Total	2710	80.1		
Total		3385	100.0		

sk080 Question 5, part 2 (pinball 3, game 2) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2635	77.8	77.8	77.8
	2 No	750	22.2	22.2	100.0
	Total	3385	100.0	100.0	

sk081 Question 5, part 2 (pinball 3, game 2): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-67	3	.1	.1	.1
	-27	1	.0	.0	.1
	-12	1	.0	.0	.2
	-9	4	.1	.1	.3
	-8	4	.1	.1	.4
	-7	2635	77.8	81.0	81.4
	-6	21	.6	.6	82.0
	-5	2	.1	.1	82.1
	-4	8	.2	.2	82.4
	-3	3	.1	.1	82.4
	-2	14	.4	.4	82.9
	-1	6	.2	.2	83.1
	0	477	14.1	14.7	97.7
	1	1	.0	.0	97.8
	2	6	.2	.2	97.9
	4	1	.0	.0	98.0
	6	3	.1	.1	98.1
	7	60	1.8	1.8	99.9
	28	2	.1	.1	100.0
	56	1	.0	.0	100.0
	Total	3253	96.1	100.0	
Missing	-106 Question 5 omitted	59	1.7		
	-105 Part 2 omitted	66	1.9		
	-101 Sign only stated	7	.2		
	Total	132	3.9		
Total		3385	100.0		

sk082 Question 5, part 2 (pinball 3, game 2) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3260	96.3	96.3	96.3
	2 No	125	3.7	3.7	100.0
	Total	3385	100.0	100.0	

sk083 Question 5, part 2 (pinball 3, game 2): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	477	14.1	14.7	14.7
	1	7	.2	.2	14.9
	2	20	.6	.6	15.5
	3	3	.1	.1	15.6
	4	9	.3	.3	15.9
	5	2	.1	.1	15.9
	6	24	.7	.7	16.7
	7	2695	79.6	82.8	99.5
	8	4	.1	.1	99.6
	9	4	.1	.1	99.8
	12	1	.0	.0	99.8
	27	1	.0	.0	99.8
	28	2	.1	.1	99.9
	56	1	.0	.0	99.9
	67	3	.1	.1	100.0
	Total	3253	96.1	100.0	
Missing	-6 Question 5 omitted	59	1.7		
	-5 Part 2 omitted	66	1.9		
	-1 Sign only stated	7	.2		
	Total	132	3.9		
Total		3385	100.0		

sk084 Question 5, part 2 (pinball 3, game 2): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	6	.2	.2	.2
	2 Lost	2717	80.3	99.8	100.0
	Total	2723	80.4	100.0	
Missing	-6 Question 5 omitted	59	1.7		
	-5 Part 2 omitted	66	1.9		
	-1 Score only stated	537	15.9		
	Total	662	19.6		
Total		3385	100.0		

sk090 Question 5, part 3 (pinball 3, game 3) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2264	66.9	66.9	66.9
	2 No	1121	33.1	33.1	100.0
	Total	3385	100.0	100.0	

sk091 Question 5, part 3 (pinball 3, game 3): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-63	4	.1	.1	.1
	-12	1	.0	.0	.2
	-9	1	.0	.0	.2
	-8	2	.1	.1	.3
	-7	19	.6	.6	.9
	-6	3	.1	.1	.9
	-5	122	3.6	3.8	4.8
	-4	22	.6	.7	5.5
	-3	2264	66.9	71.3	76.8
	-2	51	1.5	1.6	78.4
	-1	10	.3	.3	78.7
	0	230	6.8	7.2	85.9
	1	9	.3	.3	86.2
	2	262	7.7	8.2	94.5
	3	136	4.0	4.3	98.7
	4	3	.1	.1	98.8
	5	9	.3	.3	99.1
	6	1	.0	.0	99.1
	7	17	.5	.5	99.7
	8	1	.0	.0	99.7
	9	1	.0	.0	99.7
	11	1	.0	.0	99.8
	13	2	.1	.1	99.8
	20	1	.0	.0	99.9
	24	1	.0	.0	99.9
	25	1	.0	.0	99.9
	28	1	.0	.0	100.0
	72	1	.0	.0	100.0
	Total	3176	93.8	100.0	
Missing	-106 Question 5 omitted	59	1.7		
	-105 Part 3 omitted	146	4.3		
	-101 Sign only stated	4	.1		
	Total	209	6.2		
Total		3385	100.0		

sk092 Question 5, part 3 (pinball 3, game 3) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3180	93.9	93.9	93.9
	2 No	205	6.1	6.1	100.0
	Total	3385	100.0	100.0	

sk093 Question 5, part 3 (pinball 3, game 3): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	230	6.8	7.2	7.2
	1	19	.6	.6	7.8
	2	313	9.2	9.9	17.7
	3	2400	70.9	75.6	93.3
	4	25	.7	.8	94.0
	5	131	3.9	4.1	98.2
	6	4	.1	.1	98.3
	7	36	1.1	1.1	99.4
	8	3	.1	.1	99.5
	9	2	.1	.1	99.6
	11	1	.0	.0	99.6
	12	1	.0	.0	99.7
	13	2	.1	.1	99.7
	20	1	.0	.0	99.7
	24	1	.0	.0	99.8
	25	1	.0	.0	99.8
	28	1	.0	.0	99.8
	63	4	.1	.1	100.0
	72	1	.0	.0	100.0
	Total	3176	93.8	100.0	
Missing	-6 Question 5 omitted	59	1.7		
	-5 Part 3 omitted	146	4.3		
	-1 Sign only stated	4	.1		
	Total	209	6.2		
Total		3385	100.0		

sk094 Question 5, part 3 (pinball 3, game 3): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	53	1.6	2.1	2.1
	2 Lost	2506	74.0	97.9	100.0
	Total	2559	75.6	100.0	
Missing	-6 Question 5 omitted	59	1.7		
	-5 Part 3 omitted	146	4.3		
	-1 Score only stated	621	18.3		
	Total	826	24.4		
Total		3385	100.0		

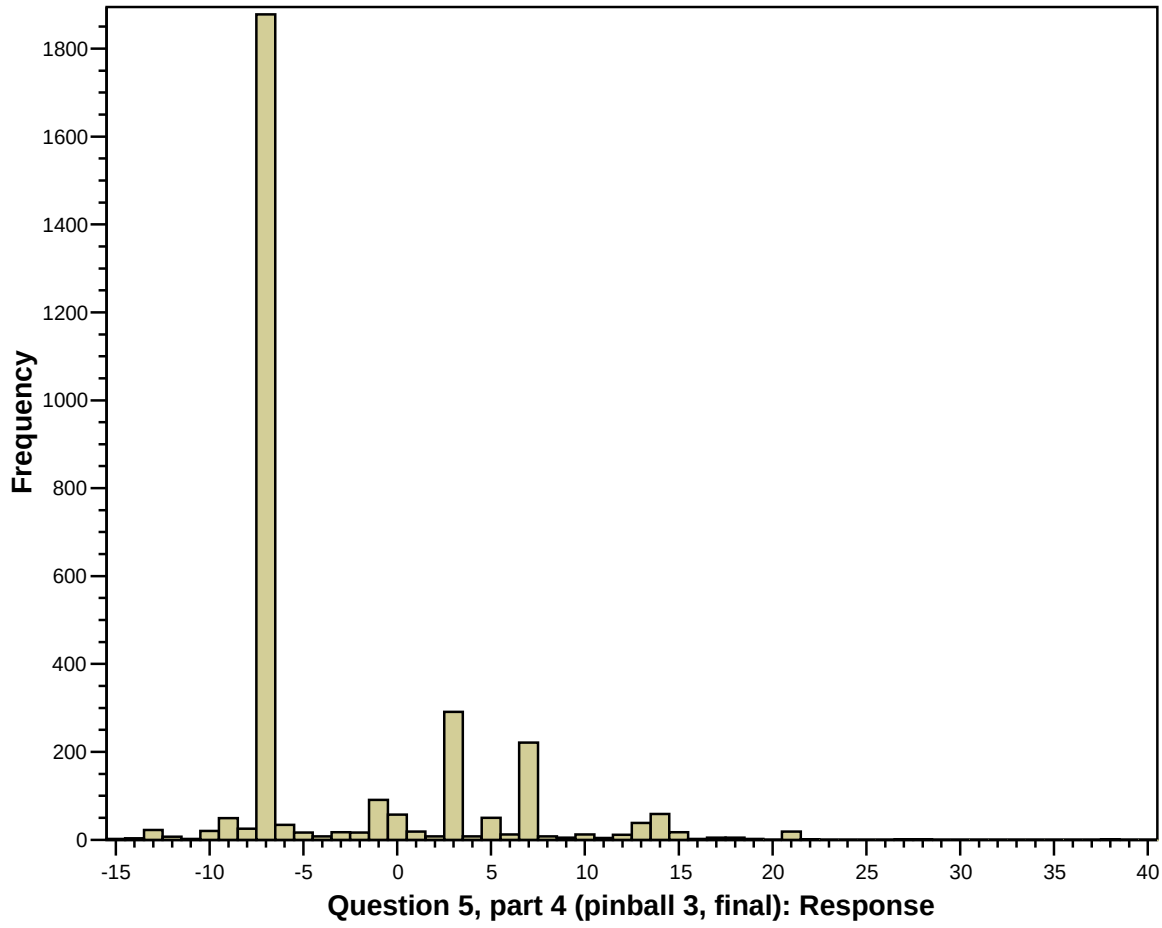
sk100 Question 5, part 4 (pinball 3, final) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	1878	55.5	55.5	55.5
	2 No	1507	44.5	44.5	100.0
	Total	3385	100.0	100.0	

sk102 Question 5, part 4 (pinball 3, final) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3064	90.5	90.5	90.5
	2 No	321	9.5	9.5	100.0
	Total	3385	100.0	100.0	

sk101 Question 5, part 4 (pinball 3, final): Response



plus the following missing values and outliers <-15 or >40:

sk101 Question 5, part 4 (pinball 3, final): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-67	2	.6	15.4	15.4
	-38	1	.3	7.7	23.1
	-27	1	.3	7.7	30.8
	-17	3	.9	23.1	53.8
	-16	1	.3	7.7	61.5
	54	1	.3	7.7	69.2
	63	1	.3	7.7	76.9
	65	2	.6	15.4	92.3
	89	1	.3	7.7	100.0
	Total	13	3.8	100.0	
Missing	-106 Question 5 omitted	59	17.5		
	-105 Part 4 omitted	262	77.5		
	-102 Other response	1	.3		
	-101 Sign only stated	3	.9		
	Total	325	96.2		
Total		338	100.0		

sk103 Question 5, part 4 (pinball 3, final): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	57	1.7	1.9	1.9
	1	110	3.2	3.6	5.5
	2	24	.7	.8	6.2
	3	308	9.1	10.1	16.3
	4	16	.5	.5	16.8
	5	66	1.9	2.2	19.0
	6	46	1.4	1.5	20.5
	7	2099	62.0	68.6	89.1
	8	33	1.0	1.1	90.2
	9	54	1.6	1.8	91.9
	10	32	.9	1.0	93.0
	11	6	.2	.2	93.2
	12	18	.5	.6	93.8
	13	60	1.8	2.0	95.7
	14	62	1.8	2.0	97.7
	15	19	.6	.6	98.4
	16	3	.1	.1	98.5
	17	8	.2	.3	98.7
	18	5	.1	.2	98.9
	19	2	.1	.1	99.0
	21	19	.6	.6	99.6
	22	1	.0	.0	99.6
	27	2	.1	.1	99.7
	28	1	.0	.0	99.7
	38	2	.1	.1	99.8
	54	1	.0	.0	99.8
	63	1	.0	.0	99.8
	65	2	.1	.1	99.9
	67	2	.1	.1	100.0
	89	1	.0	.0	100.0
	Total	3060	90.4	100.0	
Missing	-6 Question 5 omitted	59	1.7		
	-5 Part 4 omitted	262	7.7		
	-2 > 99	1	.0		
	-1 Sign only stated	3	.1		
	Total	325	9.6		
Total		3385	100.0		

sk104 Question 5, part 4 (pinball 3, final): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	34	1.0	1.5	1.5
	2 Lost	2203	65.1	98.5	100.0
	Total	2237	66.1	100.0	
Missing	-6 Question 5 omitted	59	1.7		
	-5 Part 4 omitted	262	7.7		
	-1 Score only stated	827	24.4		
	Total	1148	33.9		
Total		3385	100.0		

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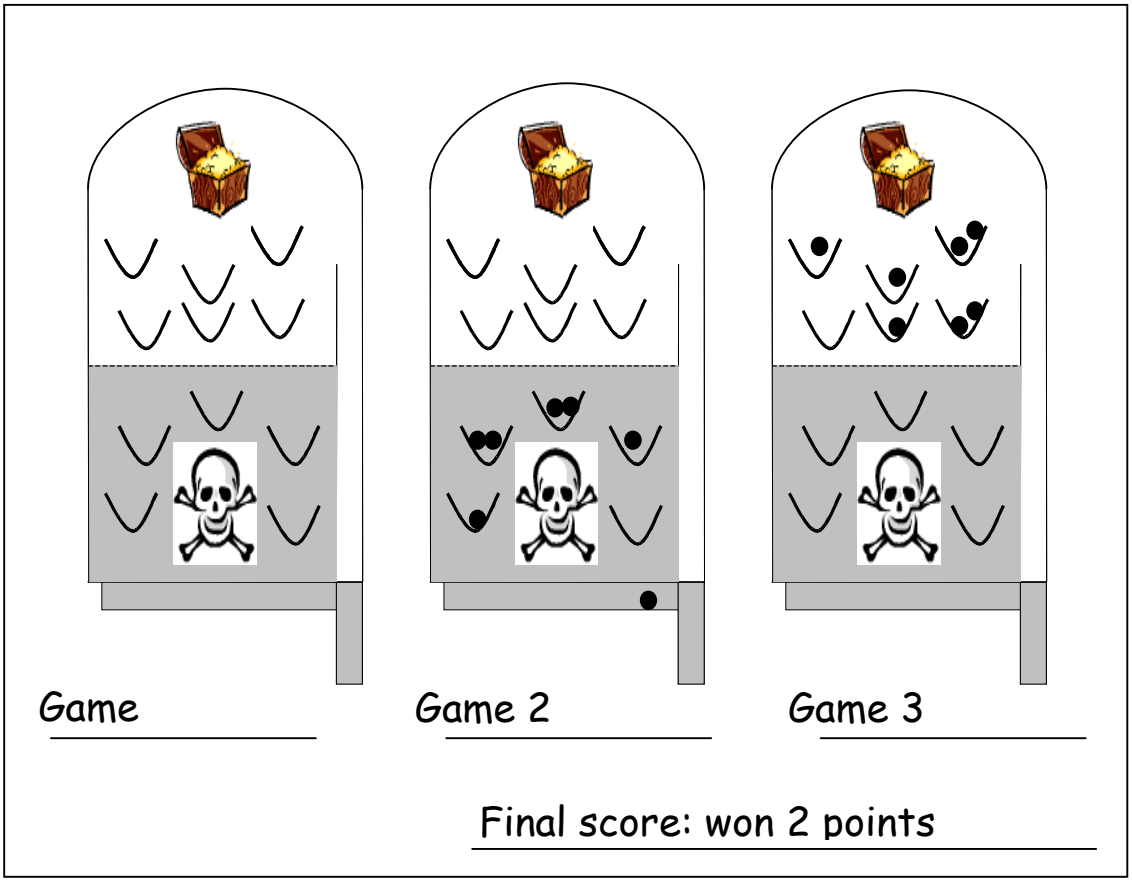

Andrew also played 3 games. He can't remember what happened in the first game.

What was his score for Game 2? Write your answer on the line for Game 2.

What was his score for Game 3? Write your answer on the line for Game 3.

He wrote down his final score counting all three games. It was a winning score of 2 points. What happened in the first game? Write his score for Game 1 on the line.

[Editing: The numerical components of the responses recorded on the coding sheet are presented as SK113, SK123 and SK133 for game 2, game 3 and game 1 respectively, with XX recoded to -2 and blanks to -1. Note that the games are arranged in the order in which the child was instructed to answer. The sign components of the responses recorded on the coding sheet are presented as SK114, SK124 and SK134 for game 2, game 3 and game 1 respectively, with W recoded to 1, L to 2 and blanks to -1. If all six variables were omitted then they were set to -6 and if both variables for any of the three parts were omitted the relevant variables were set to -5.

A single variable for the response to game 2 was calculated as SK111 by multiplying SK113 by -1 if SK114 = 2. (It is therefore assumed that an absence of a sign indicates a positive score.) Missing values of -6, -5, -2 and -1 were copied across as -106, -105, -102 and -101 respectively. Single variables for the responses to game 3 and game 1 were calculated as SK121 and SK131 in a similar manner.

An indicator of whether the child got the score correct for game 2 was derived as SK110 by recoding (-6 = 1)(else = 2) in SK111. Similarly, indicators of whether the child got the score correct in game 3 and game 1 were derived as SK120 and SK130 by recoding (7 = 1)(else = 2) in SK121 and (1 = 1)(else = 2) in SK131. Indicators of whether the child attempted each part of the question were derived as SK112, SK122 and SK132 by recoding (-106, -105 = 2)(else = 1) in SK111, SK121 and SK131.]

sk110 Question 6, part 1 (pinball 4, game 2) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2505	74.0	74.0	74.0
	2 No	880	26.0	26.0	100.0
	Total	3385	100.0	100.0	

sk111 Question 6, part 1 (pinball 4, game 2): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-18	1	.0	.0	.0
	-9	1	.0	.0	.1
	-8	3	.1	.1	.2
	-7	148	4.4	4.7	4.8
	-6	2505	74.0	78.9	83.7
	-5	25	.7	.8	84.5
	-4	5	.1	.2	84.6
	-3	3	.1	.1	84.7
	-2	5	.1	.2	84.9
	-1	5	.1	.2	85.0
	0	387	11.4	12.2	97.2
	1	9	.3	.3	97.5
	2	4	.1	.1	97.6
	3	5	.1	.2	97.8
	4	3	.1	.1	97.9
	5	4	.1	.1	98.0
	6	48	1.4	1.5	99.5
	7	10	.3	.3	99.8
	8	1	.0	.0	99.9
	10	1	.0	.0	99.9
	21	1	.0	.0	99.9
	24	2	.1	.1	100.0
	Total	3176	93.8	100.0	
Missing	-106 Question 6 omitted	136	4.0		
	-105 Part 1 omitted	67	2.0		
	-101 Sign only stated	6	.2		
	Total	209	6.2		
Total		3385	100.0		

sk112 Question 6, part 1 (pinball 4, game 2) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3182	94.0	94.0	94.0
	2 No	203	6.0	6.0	100.0
	Total	3385	100.0	100.0	

sk113 Question 6, part 1 (pinball 4, game 2): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	387	11.4	12.2	12.2
	1	14	.4	.4	12.6
	2	9	.3	.3	12.9
	3	8	.2	.3	13.2
	4	8	.2	.3	13.4
	5	29	.9	.9	14.3
	6	2553	75.4	80.4	94.7
	7	158	4.7	5.0	99.7
	8	4	.1	.1	99.8
	9	1	.0	.0	99.8
	10	1	.0	.0	99.9
	18	1	.0	.0	99.9
	21	1	.0	.0	99.9
	24	2	.1	.1	100.0
	Total	3176	93.8	100.0	
Missing	-6 Question 6 omitted	136	4.0		
	-5 Part 1 omitted	67	2.0		
	-1 Sign only stated	6	.2		
	Total	209	6.2		
Total		3385	100.0		

sk114 Question 6, part 1 (pinball 4, game 2): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	6	.2	.2	.2
	2 Lost	2713	80.1	99.8	100.0
	Total	2719	80.3	100.0	
Missing	-6 Question 6 omitted	136	4.0		
	-5 Part 1 omitted	67	2.0		
	-1 Score only stated	463	13.7		
	Total	666	19.7		
Total		3385	100.0		

sk120 Question 6, part 2 (pinball 4, game 3) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2985	88.2	88.2	88.2
	2 No	400	11.8	11.8	100.0
	Total	3385	100.0	100.0	

sk121 Question 6, part 2 (pinball 4, game 3): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-7	16	.5	.5	.5
	-5	1	.0	.0	.5
	-3	2	.1	.1	.6
	-1	2	.1	.1	.7
	0	9	.3	.3	.9
	1	26	.8	.8	1.7
	2	15	.4	.5	2.2
	3	21	.6	.7	2.9
	4	3	.1	.1	3.0
	5	9	.3	.3	3.2
	6	7	.2	.2	3.5
	7	2985	88.2	93.2	96.6
	8	10	.3	.3	96.9
	9	5	.1	.2	97.1
	12	6	.2	.2	97.3
	14	1	.0	.0	97.3
	17	1	.0	.0	97.3
	20	2	.1	.1	97.4
	22	1	.0	.0	97.4
	24	1	.0	.0	97.5
	25	2	.1	.1	97.5
	26	1	.0	.0	97.6
	28	71	2.1	2.2	99.8
	29	1	.0	.0	99.8
	32	3	.1	.1	99.9
	48	1	.0	.0	99.9
	54	1	.0	.0	100.0
	70	1	.0	.0	100.0
	Total	3204	94.7	100.0	
Missing	-106 Question 6 omitted	136	4.0		
	-105 Part 2 omitted	41	1.2		
	-101 Sign only stated	4	.1		
	Total	181	5.3		
Total		3385	100.0		

sk122 Question 6, part 2 (pinball 4, game 3) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3208	94.8	94.8	94.8
	2 No	177	5.2	5.2	100.0
	Total	3385	100.0	100.0	

sk123 Question 6, part 2 (pinball 4, game 3): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	9	.3	.3	.3
	1	28	.8	.9	1.2
	2	15	.4	.5	1.6
	3	23	.7	.7	2.3
	4	3	.1	.1	2.4
	5	10	.3	.3	2.7
	6	7	.2	.2	3.0
	7	3001	88.7	93.7	96.6
	8	10	.3	.3	96.9
	9	5	.1	.2	97.1
	12	6	.2	.2	97.3
	14	1	.0	.0	97.3
	17	1	.0	.0	97.3
	20	2	.1	.1	97.4
	22	1	.0	.0	97.4
	24	1	.0	.0	97.5
	25	2	.1	.1	97.5
	26	1	.0	.0	97.6
	28	71	2.1	2.2	99.8
	29	1	.0	.0	99.8
	32	3	.1	.1	99.9
	48	1	.0	.0	99.9
	54	1	.0	.0	100.0
	70	1	.0	.0	100.0
	Total	3204	94.7	100.0	
Missing	-6 Question 6 omitted	136	4.0		
	-5 Part 2 omitted	41	1.2		
	-1 Sign only stated	4	.1		
	Total	181	5.3		
Total		3385	100.0		

sk124 Question 6, part 2 (pinball 4, game 3): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	810	23.9	97.1	97.1
	2 Lost	24	.7	2.9	100.0
	Total	834	24.6	100.0	
Missing	-6 Question 6 omitted	136	4.0		
	-5 Part 2 omitted	41	1.2		
	-1 Score only stated	2374	70.1		
	Total	2551	75.4		
Total		3385	100.0		

sk130 Question 6, part 3 (pinball 4, game 1) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2011	59.4	59.4	59.4
	2 No	1374	40.6	40.6	100.0
	Total	3385	100.0	100.0	

sk131 Question 6, part 3 (pinball 4, game 1): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-26	1	.0	.0	.0
	-22	2	.1	.1	.1
	-20	13	.4	.5	.6
	-19	1	.0	.0	.6
	-11	3	.1	.1	.7
	-7	17	.5	.6	1.4
	-6	5	.1	.2	1.5
	-5	79	2.3	2.9	4.4
	-4	7	.2	.3	4.7
	-3	6	.2	.2	4.9
	-2	7	.2	.3	5.2
	-1	19	.6	.7	5.9
	0	214	6.3	7.8	13.7
	1	2011	59.4	73.6	87.3
	2	197	5.8	7.2	94.5
	3	56	1.7	2.0	96.5
	4	15	.4	.5	97.1
	5	40	1.2	1.5	98.5
	6	8	.2	.3	98.8
	7	14	.4	.5	99.3
	8	3	.1	.1	99.5
	9	5	.1	.2	99.6
	11	1	.0	.0	99.7
	13	1	.0	.0	99.7
	15	3	.1	.1	99.8
	22	2	.1	.1	99.9
	29	1	.0	.0	99.9
	38	1	.0	.0	100.0
	81	1	.0	.0	100.0
	Total	2733	80.7	100.0	
Missing	-106 Question 6 omitted	136	4.0		
	-105 Part 3 omitted	508	15.0		
	-101 Sign only stated	8	.2		
	Total	652	19.3		
Total		3385	100.0		

sk132 Question 6, part 3 (pinball 4, game 1) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2741	81.0	81.0	81.0
	2 No	644	19.0	19.0	100.0
	Total	3385	100.0	100.0	

sk133 Question 6, part 3 (pinball 4, game 1): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	214	6.3	7.8	7.8
	1	2030	60.0	74.3	82.1
	2	204	6.0	7.5	89.6
	3	62	1.8	2.3	91.8
	4	22	.6	.8	92.6
	5	119	3.5	4.4	97.0
	6	13	.4	.5	97.5
	7	31	.9	1.1	98.6
	8	3	.1	.1	98.7
	9	5	.1	.2	98.9
	11	4	.1	.1	99.0
	13	1	.0	.0	99.1
	15	3	.1	.1	99.2
	19	1	.0	.0	99.2
	20	13	.4	.5	99.7
	22	4	.1	.1	99.9
	26	1	.0	.0	99.9
	29	1	.0	.0	99.9
	38	1	.0	.0	100.0
	81	1	.0	.0	100.0
	Total	2733	80.7	100.0	
Missing	-6 Question 6 omitted	136	4.0		
	-5 Part 3 omitted	508	15.0		
	-1 Sign only stated	8	.2		
	Total	652	19.3		
Total		3385	100.0		

sk134 Question 6, part 3 (pinball 4, game 1): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	623	18.4	78.8	78.8
	2 Lost	168	5.0	21.2	100.0
	Total	791	23.4	100.0	
Missing	-6 Question 6 omitted	136	4.0		
	-5 Part 3 omitted	508	15.0		
	-1 Score only stated	1950	57.6		
	Total	2594	76.6		
Total		3385	100.0		

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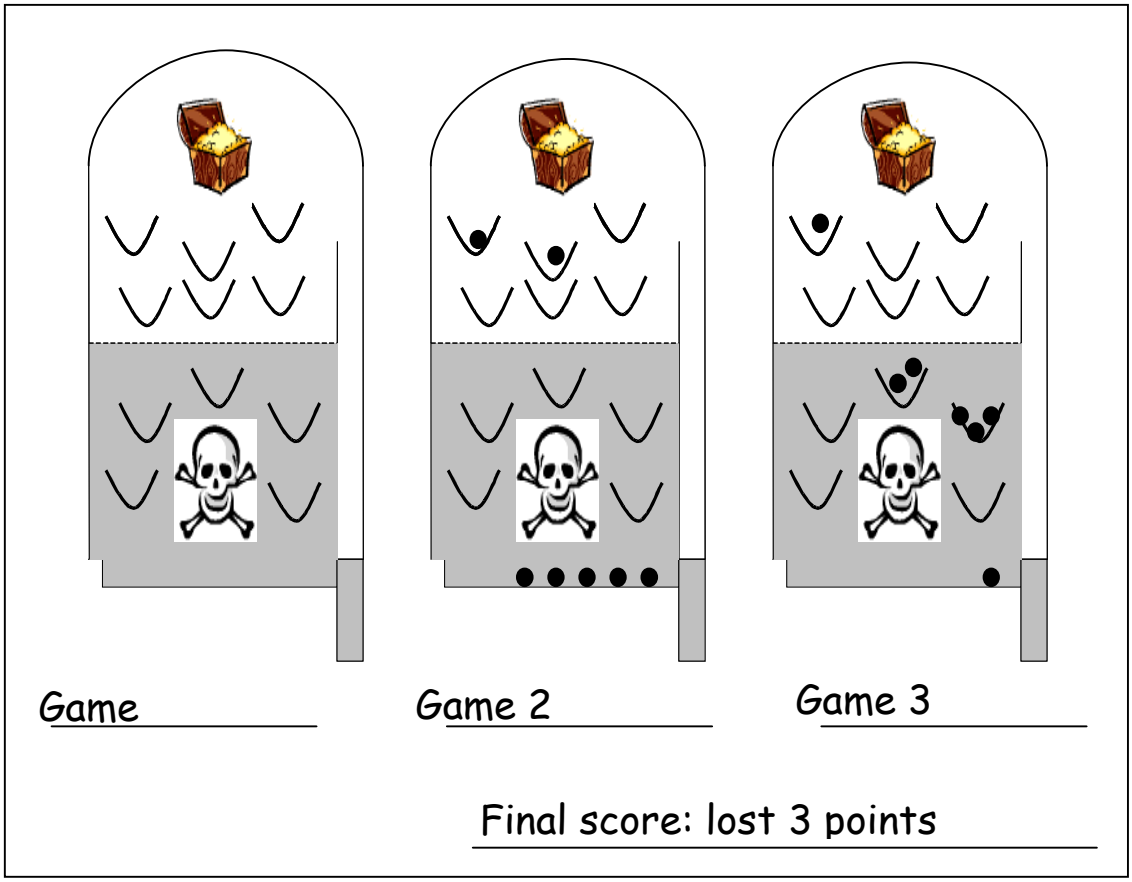

Sandra played 3 games. She can't remember what happened in the first game.

What was her score for Game 2? Write your answer on the line for Game 2.

What was her score for Game 3? Write your answer on the line for Game 3.

She wrote down her final score counting all three games. It was a losing score of 3 points. What happened in the first game? Write her score for Game 1 on the line.

[Editing: The numerical components of the responses recorded on the coding sheet are presented as SK143, SK153 and SK163 for game 2, game 3 and game 1 respectively, with XX recoded to -2 and blanks to -1. Note that the games are arranged in the order in which the child was instructed to answer. The sign components of the responses recorded on the coding sheet are presented as SK144, SK154 and SK164 for game 2, game 3 and game 1 respectively, with W recoded to 1, L to 2 and blanks to -1. If all six variables were omitted then they were set to -6 and if both variables for any of the three parts were omitted the relevant variables were set to -5.

A single variable for the response to game 2 was calculated as SK141 by multiplying SK143 by -1 if SK144 = 2. (It is therefore assumed that an absence of a sign indicates a positive score.) Missing values of -6, -5, -2 and -1 were copied across as -106, -105, -102 and -101 respectively. Single variables for the responses to game 3 and game 1 were calculated as SK151 and SK161 in a similar manner.

An indicator of whether the child got the score correct for game 2 was derived as SK140 by recoding (2 = 1)(else = 2) in SK141. Similarly, indicators of whether the child got the score correct in game 3 and game 1 were derived as SK150 and SK160 by recoding (-4 = 1)(else = 2) in SK151 and (-1 = 1)(else = 2) in SK161. Indicators of whether the child attempted each part of the question were derived as SK142, SK152 and SK162 by recoding (-106, -105 = 2)(else = 1) in SK141, SK151 and SK161.]

sk140 Question 7, part 1 (pinball 5, game 2) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2906	85.8	85.8	85.8
	2 No	479	14.2	14.2	100.0
	Total	3385	100.0	100.0	

sk141 Question 7, part 1 (pinball 5, game 2): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-8	1	.0	.0	.0
	-7	2	.1	.1	.1
	-6	3	.1	.1	.2
	-5	18	.5	.6	.8
	-4	1	.0	.0	.8
	-3	56	1.7	1.8	2.6
	-2	15	.4	.5	3.1
	0	31	.9	1.0	4.0
	1	10	.3	.3	4.4
	2	2906	85.8	92.4	96.8
	3	10	.3	.3	97.1
	4	8	.2	.3	97.3
	5	7	.2	.2	97.6
	6	3	.1	.1	97.6
	7	5	.1	.2	97.8
	8	67	2.0	2.1	99.9
	22	1	.0	.0	100.0
	23	1	.0	.0	100.0
	Total	3145	92.9	100.0	
Missing	-106 Question 7 omitted	209	6.2		
	-105 Part 1 omitted	28	.8		
	-102 Other response	1	.0		
	-101 Sign only stated	2	.1		
	Total	240	7.1		
Total		3385	100.0		

sk142 Question 7, part 1 (pinball 5, game 2) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3148	93.0	93.0	93.0
	2 No	237	7.0	7.0	100.0
	Total	3385	100.0	100.0	

sk143 Question 7, part 1 (pinball 5, game 2): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	31	.9	1.0	1.0
	1	10	.3	.3	1.3
	2	2921	86.3	92.9	94.2
	3	66	1.9	2.1	96.3
	4	9	.3	.3	96.6
	5	25	.7	.8	97.4
	6	6	.2	.2	97.6
	7	7	.2	.2	97.8
	8	68	2.0	2.2	99.9
	22	1	.0	.0	100.0
	23	1	.0	.0	100.0
	Total	3145	92.9	100.0	
Missing	-6 Question 7 omitted	209	6.2		
	-5 Part 1 omitted	28	.8		
	-2 > 99	1	.0		
	-1 Sign only stated	2	.1		
	Total	240	7.1		
Total		3385	100.0		

sk144 Question 7, part 1 (pinball 5, game 2): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	726	21.4	88.1	88.1
	2 Lost	98	2.9	11.9	100.0
	Total	824	24.3	100.0	
Missing	-6 Question 7 omitted	209	6.2		
	-5 Part 1 omitted	28	.8		
	-1 Score only stated	2324	68.7		
	Total	2561	75.7		
Total		3385	100.0		

sk150 Question 7, part 2 (pinball 5, game 3) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2173	64.2	64.2	64.2
	2 No	1212	35.8	35.8	100.0
	Total	3385	100.0	100.0	

sk151 Question 7, part 2 (pinball 5, game 3): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-17	1	.0	.0	.0
	-14	1	.0	.0	.1
	-9	1	.0	.0	.1
	-8	1	.0	.0	.1
	-7	5	.1	.2	.3
	-6	46	1.4	1.5	1.8
	-5	182	5.4	5.9	7.7
	-4	2173	64.2	70.8	78.6
	-3	35	1.0	1.1	79.7
	-2	11	.3	.4	80.1
	-1	67	2.0	2.2	82.2
	0	163	4.8	5.3	87.5
	1	271	8.0	8.8	96.4
	2	7	.2	.2	96.6
	3	6	.2	.2	96.8
	4	53	1.6	1.7	98.5
	5	12	.4	.4	98.9
	6	18	.5	.6	99.5
	7	8	.2	.3	99.8
	9	1	.0	.0	99.8
	10	1	.0	.0	99.8
	14	1	.0	.0	99.9
	17	1	.0	.0	99.9
	28	1	.0	.0	99.9
	45	1	.0	.0	100.0
	84	1	.0	.0	100.0
	Total	3068	90.6	100.0	
Missing	-106 Question 7 omitted	209	6.2		
	-105 Part 2 omitted	104	3.1		
	-102 Other response	1	.0		
	-101 Sign only stated	3	.1		
	Total	317	9.4		
Total		3385	100.0		

sk152 Question 7, part 2 (pinball 5, game 3) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3072	90.8	90.8	90.8
	2 No	313	9.2	9.2	100.0
	Total	3385	100.0	100.0	

sk153 Question 7, part 2 (pinball 5, game 3): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	163	4.8	5.3	5.3
	1	338	10.0	11.0	16.3
	2	18	.5	.6	16.9
	3	41	1.2	1.3	18.3
	4	2226	65.8	72.6	90.8
	5	194	5.7	6.3	97.1
	6	64	1.9	2.1	99.2
	7	13	.4	.4	99.6
	8	1	.0	.0	99.7
	9	2	.1	.1	99.7
	10	1	.0	.0	99.8
	14	2	.1	.1	99.8
	17	2	.1	.1	99.9
	28	1	.0	.0	99.9
	45	1	.0	.0	100.0
	84	1	.0	.0	100.0
	Total	3068	90.6	100.0	
Missing	-6 Question 7 omitted	209	6.2		
	-5 Part 2 omitted	104	3.1		
	-2 > 99	1	.0		
	-1 Sign only stated	3	.1		
	Total	317	9.4		
Total		3385	100.0		

sk154 Question 7, part 2 (pinball 5, game 3): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	55	1.6	2.1	2.1
	2 Lost	2526	74.6	97.9	100.0
	Total	2581	76.2	100.0	
Missing	-6 Question 7 omitted	209	6.2		
	-5 Part 2 omitted	104	3.1		
	-1 Score only stated	491	14.5		
	Total	804	23.8		
Total		3385	100.0		

sk160 Question 7, part 3 (pinball 5, game 1) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	1494	44.1	44.1	44.1
	2 No	1891	55.9	55.9	100.0
	Total	3385	100.0	100.0	

sk161 Question 7, part 3 (pinball 5, game 1): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-61	1	.0	.0	.0
	-38	3	.1	.1	.2
	-10	14	.4	.5	.7
	-9	1	.0	.0	.7
	-8	1	.0	.0	.8
	-7	25	.7	1.0	1.7
	-6	31	.9	1.2	2.9
	-5	32	.9	1.2	4.1
	-4	34	1.0	1.3	5.4
	-3	59	1.7	2.3	7.7
	-2	44	1.3	1.7	9.3
	-1	1494	44.1	57.0	66.3
	0	292	8.6	11.1	77.5
	1	197	5.8	7.5	85.0
	2	37	1.1	1.4	86.4
	3	48	1.4	1.8	88.2
	4	50	1.5	1.9	90.1
	5	198	5.8	7.6	97.7
	6	31	.9	1.2	98.9
	7	20	.6	.8	99.6
	8	1	.0	.0	99.7
	9	2	.1	.1	99.7
	10	1	.0	.0	99.8
	11	1	.0	.0	99.8
	12	1	.0	.0	99.8
	13	2	.1	.1	99.9
	15	1	.0	.0	100.0
	54	1	.0	.0	100.0
	Total	2622	77.5	100.0	
Missing	-106 Question 7 omitted	209	6.2		
	-105 Part 3 omitted	544	16.1		
	-102 Other response	2	.1		
	-101 Sign only stated	8	.2		
	Total	763	22.5		
Total		3385	100.0		

sk162 Question 7, part 3 (pinball 5, game 1) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2632	77.8	77.8	77.8
	2 No	753	22.2	22.2	100.0
	Total	3385	100.0	100.0	

sk163 Question 7, part 3 (pinball 5, game 1): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	292	8.6	11.1	11.1
	1	1691	50.0	64.5	75.6
	2	81	2.4	3.1	78.7
	3	107	3.2	4.1	82.8
	4	84	2.5	3.2	86.0
	5	230	6.8	8.8	94.8
	6	62	1.8	2.4	97.1
	7	45	1.3	1.7	98.9
	8	2	.1	.1	98.9
	9	3	.1	.1	99.0
	10	15	.4	.6	99.6
	11	1	.0	.0	99.7
	12	1	.0	.0	99.7
	13	2	.1	.1	99.8
	15	1	.0	.0	99.8
	38	3	.1	.1	99.9
	54	1	.0	.0	100.0
	61	1	.0	.0	100.0
	Total	2622	77.5	100.0	
Missing	-6 Question 7 omitted	209	6.2		
	-5 Part 3 omitted	544	16.1		
	-2 > 99	2	.1		
	-1 Sign only stated	8	.2		
	Total	763	22.5		
Total		3385	100.0		

sk164 Question 7, part 3 (pinball 5, game 1): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	96	2.8	5.2	5.2
	2 Lost	1748	51.6	94.8	100.0
	Total	1844	54.5	100.0	
Missing	-6 Question 7 omitted	209	6.2		
	-5 Part 3 omitted	544	16.1		
	-1 Score only stated	788	23.3		
	Total	1541	45.5		
Total		3385	100.0		

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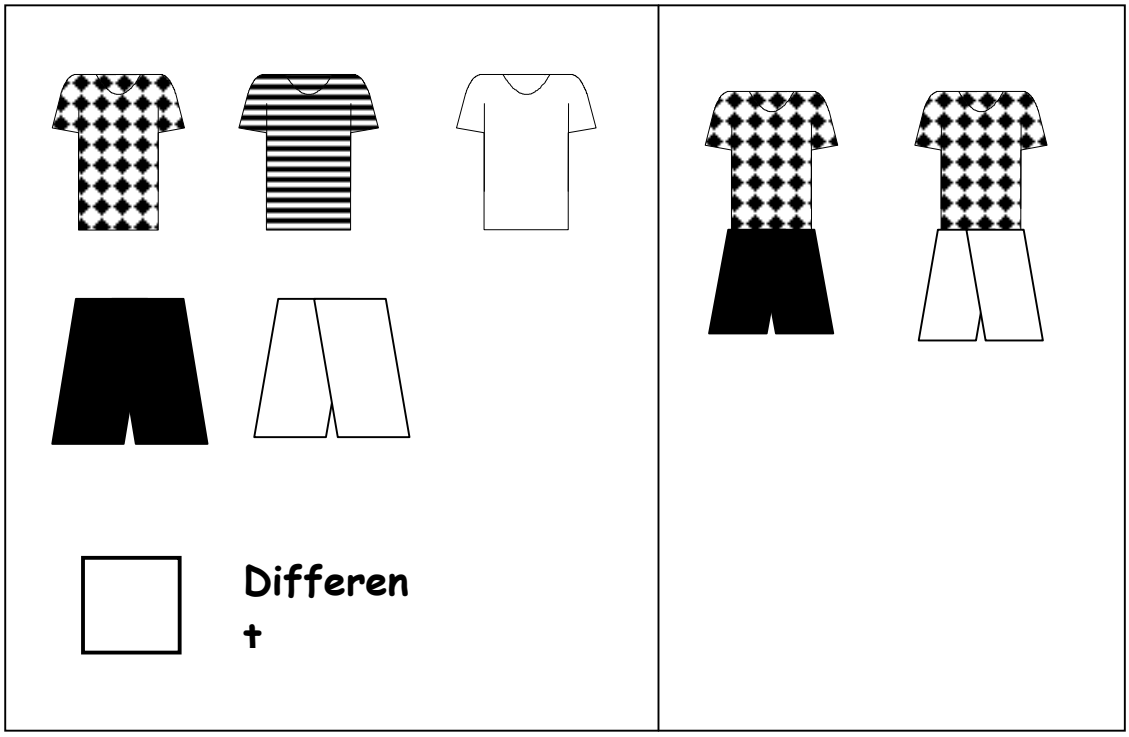

Rebecca has three different shirts and two different pairs of shorts. You can see them on the left side of the page. She can combine the shirts with shorts and wear different outfits. You can see on the right side of the page how she can wear the same shirt with the two shorts and have different looking outfits.

If she changes her shirts and shorts around to make different outfits, how many different outfits can she make?

[Editing: The response recorded on the coding sheet is presented as SK171, with XX recoded to -2 and blanks to -6. An indicator of whether the child got the answer correct was derived as SK170 by recoding (6 = 1)(else = 2) in SK171. An indicator of whether the child attempted the question was derived as SK172 by recoding (-6 = 2)(else = 1) in SK171.]

sk170 Question 8 (# outfits) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3040	89.8	89.8	89.8
	2 No	345	10.2	10.2	100.0
	Total	3385	100.0	100.0	

sk171 Question 8 (# outfits): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	.0	.0	.0
	1	2	.1	.1	.1
	2	13	.4	.4	.5
	3	19	.6	.6	1.0
	4	54	1.6	1.6	2.7
	5	24	.7	.7	3.4
	6	3040	89.8	90.9	94.3
	7	13	.4	.4	94.7
	8	40	1.2	1.2	95.9
	9	32	.9	1.0	96.8
	10	20	.6	.6	97.4
	11	1	.0	.0	97.5
	12	64	1.9	1.9	99.4
	14	1	.0	.0	99.4
	16	3	.1	.1	99.5
	18	2	.1	.1	99.6
	20	4	.1	.1	99.7
	24	1	.0	.0	99.7
	25	4	.1	.1	99.8
	30	2	.1	.1	99.9
	36	1	.0	.0	99.9
	66	2	.1	.1	100.0
	84	1	.0	.0	100.0
	Total	3344	98.8	100.0	
Missing	-6 Question 8 omitted	41	1.2		
Total		3385	100.0		

sk172 Question 8 (# outfits) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3344	98.8	98.8	98.8
	2 No	41	1.2	1.2	100.0
	Total	3385	100.0	100.0	

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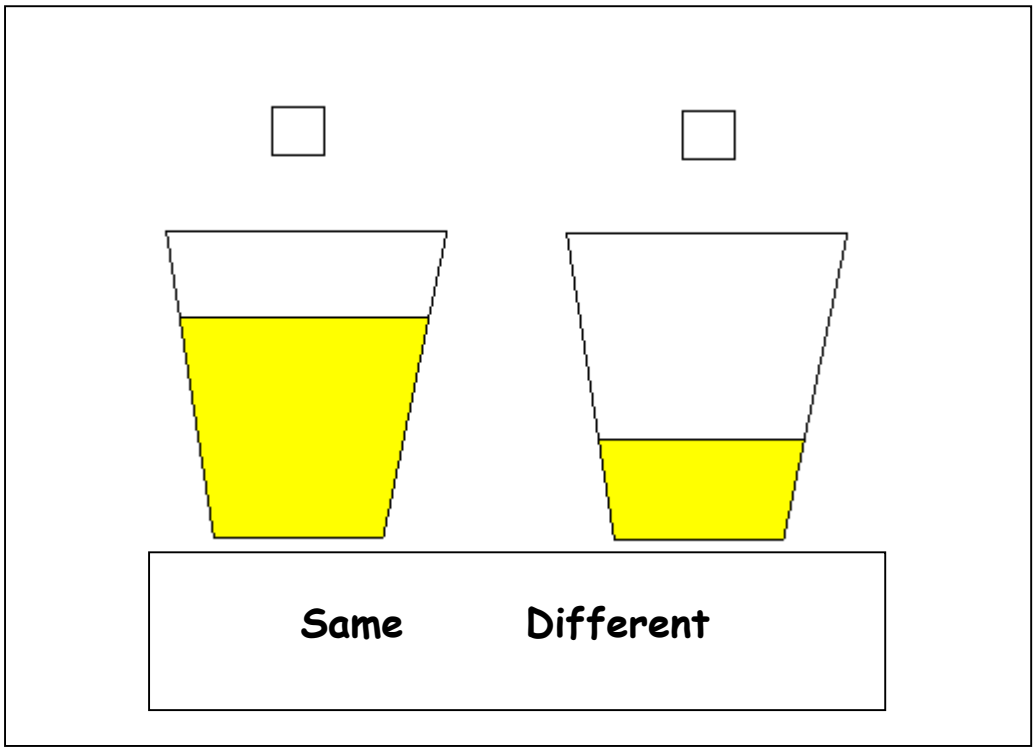

Lemon juice doesn't come with sugar.

One glass has more lemon juice and the other has less lemon juice.

Suppose you mix one lump of sugar in each glass. Then you stir it very well [show with gestures the separate stirring of each glass]. Is the lemon juice in one glass going to taste just like the lemon juice in the other glass or are they going to taste different?

Circle 'same or 'different'.

If you circled different, tick the lemon juice that you think will be sweeter.

[Editing: The response recorded on the coding sheet for part 1 of the question (whether the lemon juice in two glasses tastes the same or different) is presented as SK181, with S recoded to 1, D to 2 and blanks to -5. The response recorded on the coding sheet for part 2 of the question (which lemon juice tastes sweeter) is presented as SK191, with L recoded to 1, R to 2 and blanks to -5. If both variables were omitted then they were set to -6. If the response to part 1 was S then SK191 was set to -2.

An indicator of whether the child got the correct answer for part 1 was derived as SK180 by recoding (2 = 1)(else = 2) in SK181. Similarly, an indicator of whether the child got the correct answer for part 2 was derived as SK190 by recoding (2 = 1)(else = 2) in SK191. Indicators of whether the child attempted each part of the question were derived as SK182 and SK192 by recoding (-6, -5 = 2)(else = 1) in SK181 and (-6, -5, -2 = 2)(else = 1) in SK191.]

sk180 Question 9, part 1 (lemon juice, taste) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3107	91.8	91.8	91.8
	2 No	278	8.2	8.2	100.0
	Total	3385	100.0	100.0	

sk181 Question 9, part 1 (lemon juice, taste): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Same	207	6.1	6.2	6.2
	2 Different	3107	91.8	93.8	100.0
	Total	3314	97.9	100.0	
Missing	-6 Question 9 omitted	44	1.3		
	-5 Part 1 omitted	27	.8		
	Total	71	2.1		
Total		3385	100.0		

sk182 Question 9, part 1 (lemon juice, taste) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3314	97.9	97.9	97.9
	2 No	71	2.1	2.1	100.0
	Total	3385	100.0	100.0	

sk190 Question 9, part 2 (lemon juice, sweeter glass) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2549	75.3	75.3	75.3
	2 No	836	24.7	24.7	100.0
	Total	3385	100.0	100.0	

sk191 Question 9, part 2 (lemon juice, sweeter glass): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Left	229	6.8	8.2	8.2
	2 Right	2549	75.3	91.8	100.0
	Total	2778	82.1	100.0	
Missing	-6 Question 9 omitted	44	1.3		
	-5 Part 2 omitted	356	10.5		
	-2 Answered 'same' in part 1	207	6.1		
	Total	607	17.9		
Total		3385	100.0		

sk192 Question 9, part 2 (lemon juice, sweeter glass) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2778	82.1	82.1	82.1
	2 No	607	17.9	17.9	100.0
	Total	3385	100.0	100.0	

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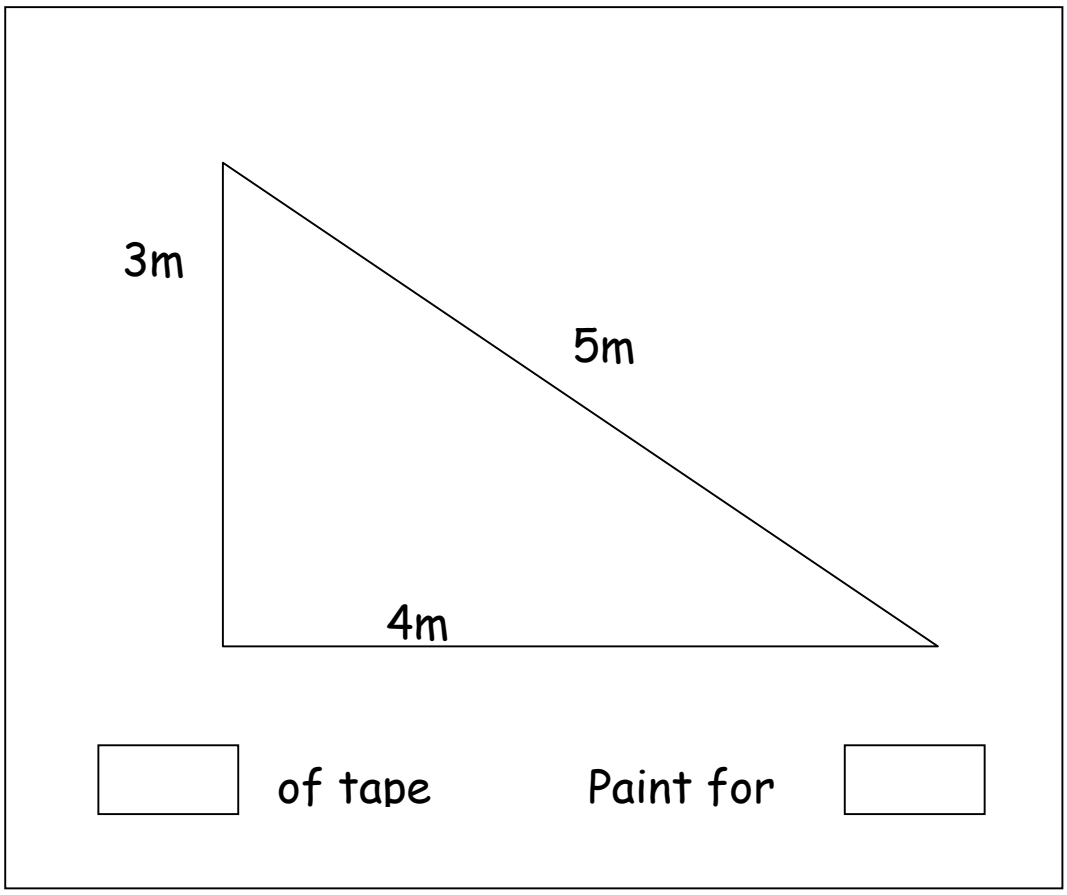


Washington's room is in the loft. The wall at the end of the room is like a triangle. He wants to decorate it and paint only that wall in dark green.

He will need to buy tape to put around the edges of the wall so he does not paint the ceiling, the floor or the other wall. How much tape does he need? Write your answer in the box. Don't forget to put the unit of measurement.

He also needs to buy enough paint to cover the wall. His father told him to work out the area he is going to paint so he can know how much paint he needs. Write the area in the box on the right – don't forget the unit of measurement.

[Editing: The numerical components of the responses recorded on the coding sheet are presented as SK203 and SK213 for part 1 (length to tape) and part 2 (area to paint) respectively, with XX recoded to -2 and blanks to -1. The indicator for correct units components of the responses recorded on the coding sheet are presented as SK204 and SK214 for part 1 and part 2 respectively, with Y recoded to 1, N to 2 and blanks to -1. If all four variables were omitted then they were set to -6 and if both variables for either of the two parts were omitted the relevant variables were set to -5. Any remaining values of -1 in SK204 and SK214 were recoded to 3

A single variable for the response to part 1 in m was calculated as SK201 by setting it equal to SK203 if SK204 = 1 and to -3 if SK204 = 2 or 3. Missing values of -6, -5, -2 and -1 were copied across. A single variable for the response to part 2 in m^2 was calculated as SK211 in a similar manner.

An indicator of whether the child got the correct answer for part 1 was derived as SK200 by recoding (12 = 1)(else = 2) in SK201. Similarly, an indicator of whether the child got the correct answer for part 2 was derived as SK210 by recoding (6 = 1)(else = 2) in SK211. Indicators of whether the child attempted each part of the question were derived as SK202 and SK212 by recoding (-6, -5 = 2)(else = 1) in SK201 and SK211.]

sk200 Question 10, part 1 (decorating, tape) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2602	76.9	76.9	76.9
	2 No	783	23.1	23.1	100.0
	Total	3385	100.0	100.0	

sk201 Question 10, part 1 (decorating, tape): Response in m

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	8	.2	.3	.3
	4	8	.2	.3	.6
	5	15	.4	.5	1.1
	6	20	.6	.7	1.8
	7	22	.6	.8	2.6
	8	11	.3	.4	2.9
	9	20	.6	.7	3.6
	10	9	.3	.3	3.9
	11	23	.7	.8	4.8
	12	2602	76.9	90.9	95.7
	13	24	.7	.8	96.5
	14	9	.3	.3	96.9
	15	7	.2	.2	97.1
	16	2	.1	.1	97.2
	17	10	.3	.3	97.5
	18	2	.1	.1	97.6
	19	4	.1	.1	97.7
	20	1	.0	.0	97.8
	23	1	.0	.0	97.8
	24	29	.9	1.0	98.8
	26	3	.1	.1	98.9
	28	1	.0	.0	99.0
	30	1	.0	.0	99.0
	32	2	.1	.1	99.1
	36	1	.0	.0	99.1
	50	2	.1	.1	99.2
	52	1	.0	.0	99.2
	60	18	.5	.6	99.8
	72	1	.0	.0	99.9
	75	1	.0	.0	99.9
	92	3	.1	.1	100.0
	Total	2861	84.5	100.0	
Missing	-6 Question 10 omitted	95	2.8		
	-5 Part 1 omitted	18	.5		
	-3 Correct unit not stated	407	12.0		
	-2 Other response	3	.1		
	-1 Unit only stated	1	.0		
	Total	524	15.5		
Total		3385	100.0		

sk202 Question 10, part 1 (decorating, tape) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3272	96.7	96.7	96.7
	2 No	113	3.3	3.3	100.0
	Total	3385	100.0	100.0	

sk203 Question 10, part 1 (decorating, tape): Value

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	.1	.1	.1
	2	1	.0	.0	.1
	3	13	.4	.4	.5
	4	9	.3	.3	.8
	5	20	.6	.6	1.4
	6	29	.9	.9	2.3
	7	33	1.0	1.0	3.3
	8	22	.6	.7	4.0
	9	24	.7	.7	4.7
	10	13	.4	.4	5.1
	11	28	.8	.9	5.9
	12	2903	85.8	89.0	94.9
	13	30	.9	.9	95.9
	14	9	.3	.3	96.1
	15	10	.3	.3	96.4
	16	3	.1	.1	96.5
	17	12	.4	.4	96.9
	18	2	.1	.1	97.0
	19	5	.1	.2	97.1
	20	4	.1	.1	97.2
	23	1	.0	.0	97.3
	24	35	1.0	1.1	98.3
	25	1	.0	.0	98.4
	26	4	.1	.1	98.5
	28	1	.0	.0	98.5
	30	1	.0	.0	98.6
	32	2	.1	.1	98.6
	36	1	.0	.0	98.7
	40	1	.0	.0	98.7
	50	2	.1	.1	98.7
	52	1	.0	.0	98.8
	60	33	1.0	1.0	99.8
	65	1	.0	.0	99.8
	72	2	.1	.1	99.9
	75	1	.0	.0	99.9
	92	3	.1	.1	100.0
	Total	3262	96.4	100.0	
Missing	-6 Question 10 omitted	95	2.8		
	-5 Part 1 omitted	18	.5		
	-2 Other response	9	.3		
	-1 Unit only stated	1	.0		
	Total	123	3.6		
Total		3385	100.0		

sk204 Question 10, part 1 (decorating, tape): Unit stated

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes, correct	2865	84.6	87.6	87.6
	2 Yes, incorrect	150	4.4	4.6	92.1
	3 No	257	7.6	7.9	100.0
	Total	3272	96.7	100.0	
Missing	-6 Question 10 omitted	95	2.8		
	-5 Part 1 omitted	18	.5		
	Total	113	3.3		
Total		3385	100.0		

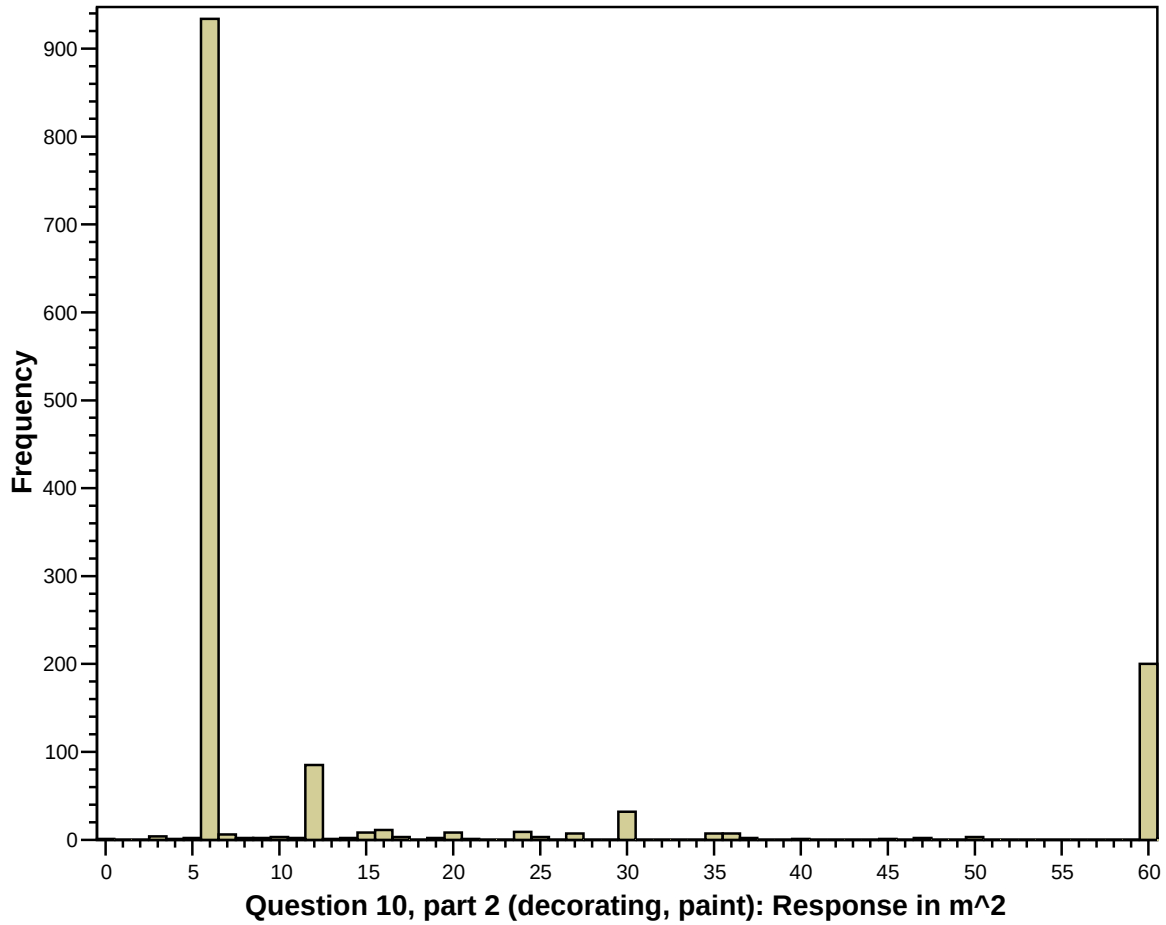
sk210 Question 10, part 2 (decorating, paint) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	934	27.6	27.6	27.6
	2 No	2451	72.4	72.4	100.0
	Total	3385	100.0	100.0	

sk212 Question 10, part 2 (decorating, paint) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2964	87.6	87.6	87.6
	2 No	421	12.4	12.4	100.0
	Total	3385	100.0	100.0	

sk211 Question 10, part 2 (decorating, paint): Response in m^2

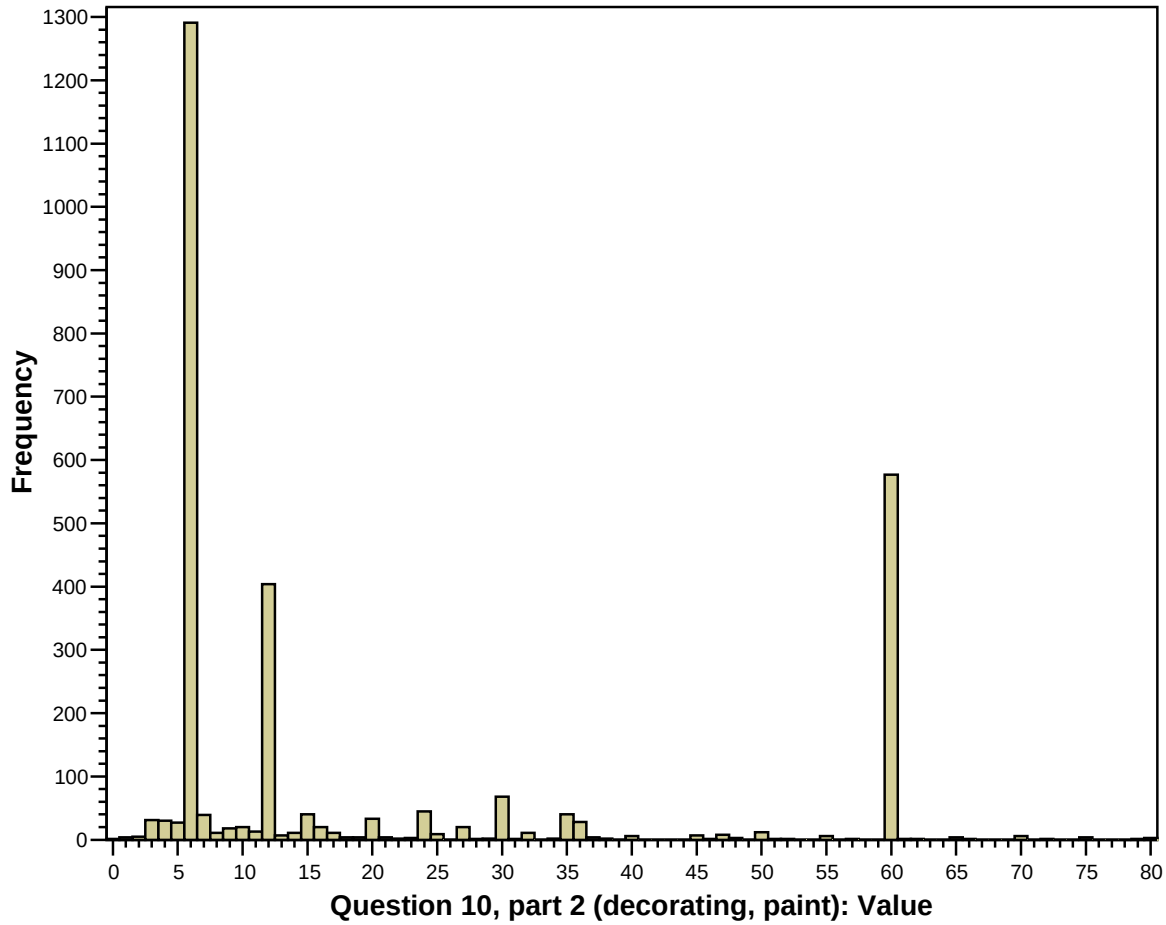


plus the following missing values and outliers >60:

sk211 Question 10, part 2 (decorating, paint): Response in m^2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	62	1	.0	14.3	14.3
	65	3	.1	42.9	57.1
	70	1	.0	14.3	71.4
	72	1	.0	14.3	85.7
	86	1	.0	14.3	100.0
	Total	7	.3	100.0	
Missing	-6 Question 10 omitted	95	4.7		
	-5 Part 2 omitted	326	16.0		
	-3 Correct unit not stated	1591	78.3		
	-2 Other response	10	.5		
	-1 Unit only stated	4	.2		
	Total	2026	99.7		
Total		2033	100.0		

sk213 Question 10, part 2 (decorating, paint): Value



plus the following missing values and outliers >80:

sk213 Question 10, part 2 (decorating, paint): Value

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	85	1	.2	33.3	33.3
	86	1	.2	33.3	66.7
	90	1	.2	33.3	100.0
	Total	3	.6	100.0	
Missing	-6 Question 10 omitted	95	20.0		
	-5 Part 2 omitted	326	68.8		
	-2 Other response	42	8.9		
	-1 Unit only stated	8	1.7		
	Total	471	99.4		
Total		474	100.0		

sk214 Question 10, part 2 (decorating, paint): Unit stated

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes, correct	1373	40.6	46.3	46.3
	2 Yes, incorrect	1182	34.9	39.9	86.2
	3 No	409	12.1	13.8	100.0
	Total	2964	87.6	100.0	
Missing	-6 Question 10 omitted	95	2.8		
	-5 Part 2 omitted	326	9.6		
	Total	421	12.4		
Total		3385	100.0		

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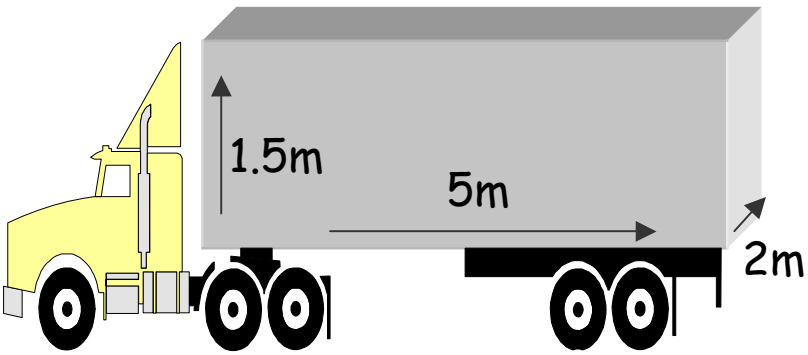


of sand

Ryan's father drives a lorry and carries building materials. In the picture you can see the size of the trailer where he puts the materials. Today the trailer is filled with sand all the way to the top.

What volume of sand is he carrying? Write your answer in the box including the unit of measurement.

[Editing: The numerical component of the response recorded on the coding sheet is presented as SK223, with XXX recoded to -2 and blanks to -1. The indicator for correct units component of the response recorded on the coding sheet is presented as SK224, with Y recoded to 1, N to 2 and blanks to -1. If both variables were omitted then they were set to -6, otherwise values of -1 in SK224 were recoded to 3.

A single variable for the response in m^3 was calculated as SK221 by setting it equal to SK223 if SK224 = 1 and to -3 if SK224 = 2 or 3. Missing values of -6, -2 and -1 were copied across. An indicator of whether the child got the correct answer was derived as SK220 by recoding (15 = 1)(else = 2) in SK221. An indicator of whether the child attempted the question was derived as SK222 by recoding (-6 = 2)(else = 1) in SK221.]

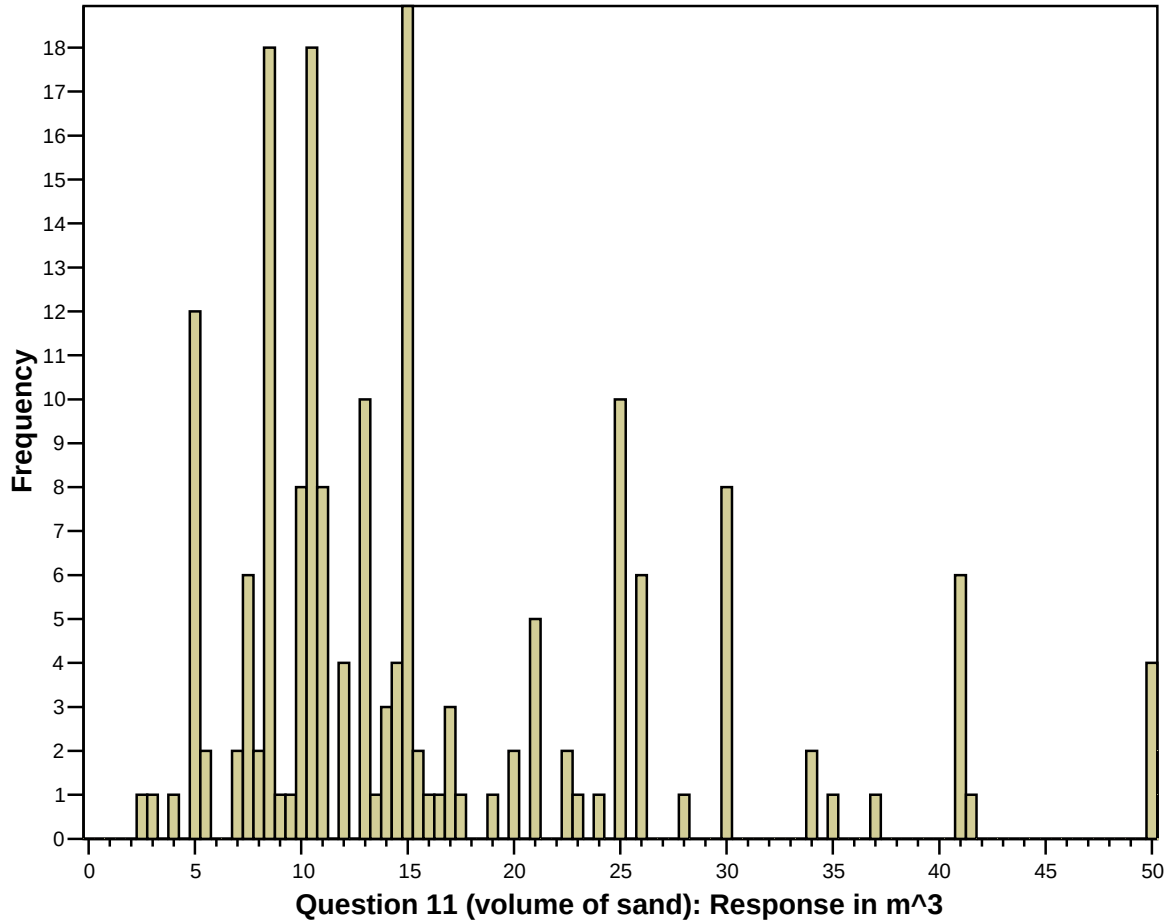
sk220 Question 11 (volume of sand) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	801	23.7	23.7	23.7
	2 No	2584	76.3	76.3	100.0
	Total	3385	100.0	100.0	

sk222 Question 11 (volume of sand) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2906	85.8	85.8	85.8
	2 No	479	14.2	14.2	100.0
	Total	3385	100.0	100.0	

sk221 Question 11 (volume of sand): Response in m^3

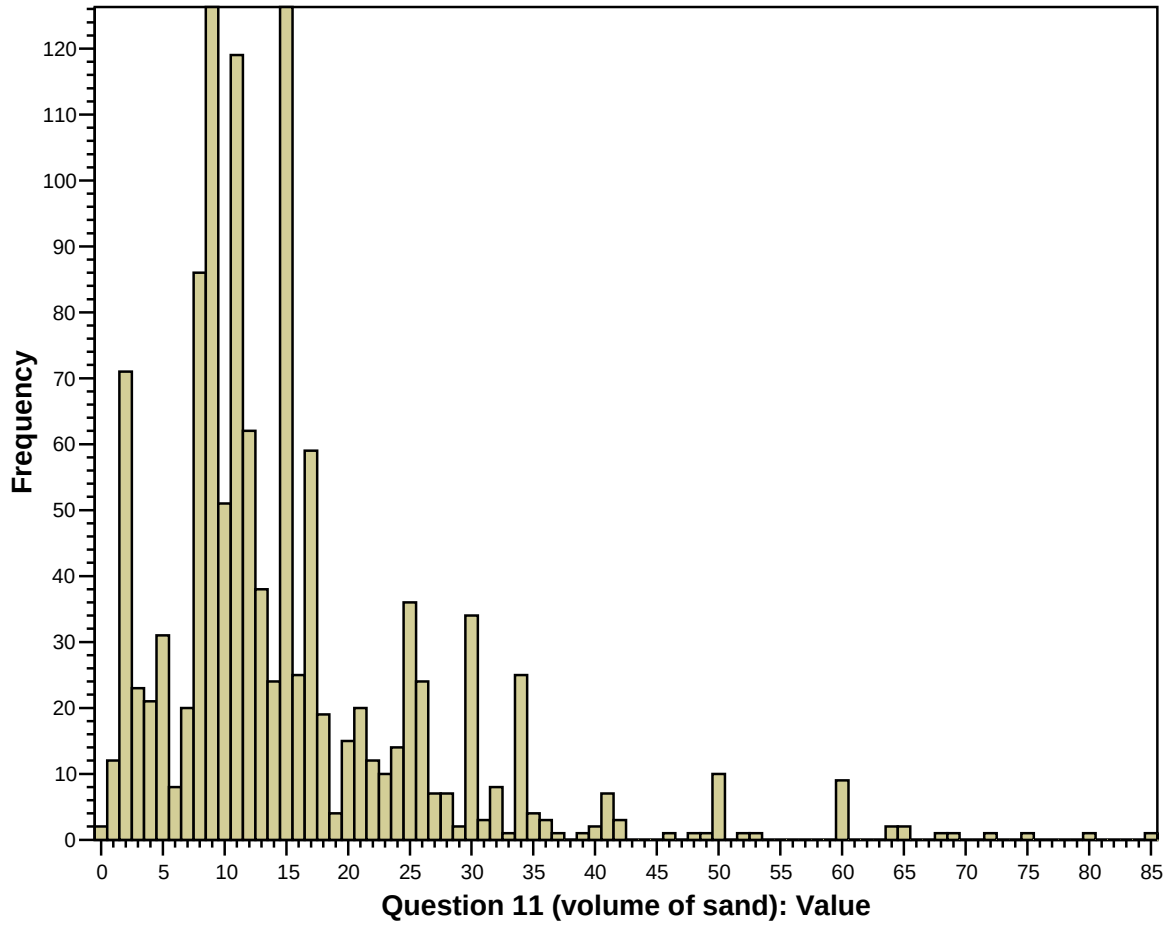


where the frequency for the bin [14.75, 15.25) is 801 and plus the following missing values and outliers >50:

sk221 Question 11 (volume of sand): Response in m^3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	60.0	2	.1	66.7	66.7
	64.0	1	.0	33.3	100.0
	Total	3	.1	100.0	
Missing	-6.0 Question 11 omitted	479	19.8		
	-3.0 Correct unit not stated	1916	79.1		
	-2.0 Other response	19	.8		
	-1.0 Unit only stated	4	.2		
	Total	2418	99.9		
Total		2421	100.0		

sk223 Question 11 (volume of sand): Value



where the frequencies for the bins [8.5, 9.5) and [14.5, 15.5) are 420 and 1,437 respectively and plus the following missing values and outliers >85:

sk223 Question 11 (volume of sand): Value

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	90.0	1	.2	33.3	33.3
	95.5	1	.2	33.3	66.7
	98.0	1	.2	33.3	100.0
	Total	3	.5	100.0	
Missing	-6.0 Question 11 omitted	479	82.6		
	-2.0 Other response	84	14.5		
	-1.0 Unit only stated	14	2.4		
	Total	577	99.5		
Total		580	100.0		

sk224 Question 11 (volume of sand): Unit stated

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes, correct	990	29.2	34.1	34.1
	2 Yes, incorrect	1602	47.3	55.1	89.2
	3 No	314	9.3	10.8	100.0
	Total	2906	85.8	100.0	
Missing	-6 Question 11 omitted	479	14.2		
Total		3385	100.0		

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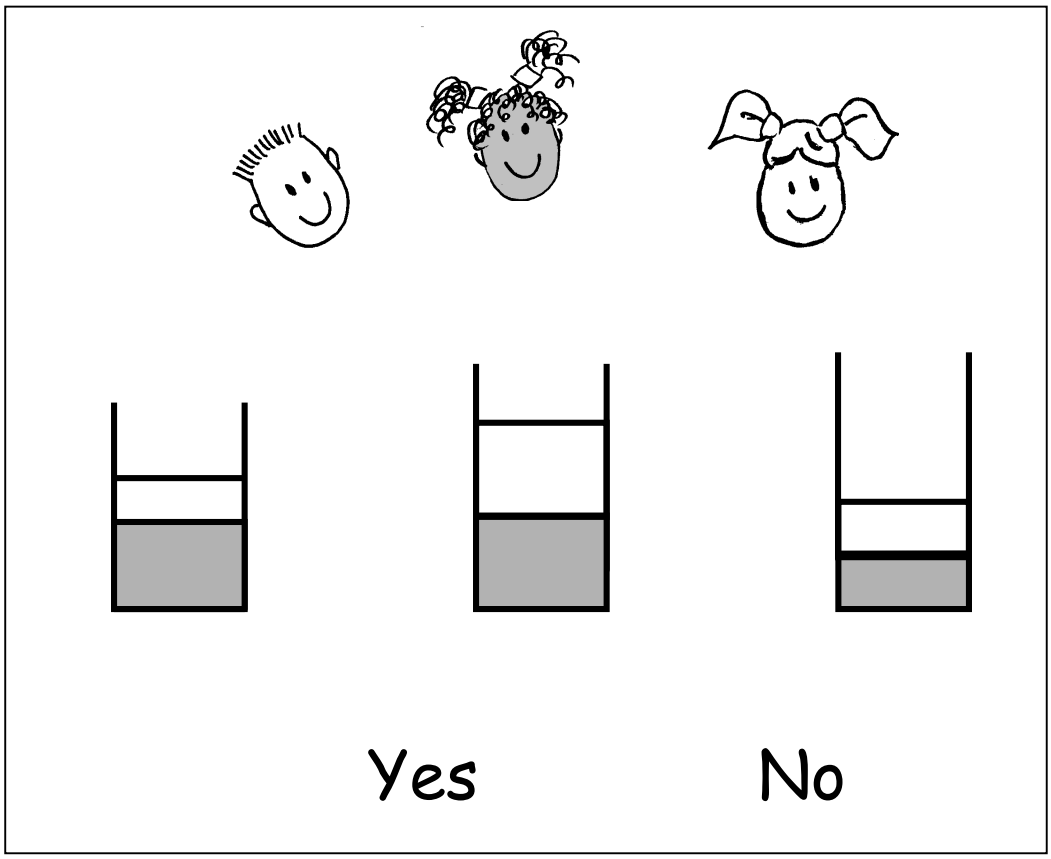

Three children are making orange squash
(if the children don't understand this, try saying that the children are making a brand name drink like Ribena).

In the picture the orange squash is grey and the water is white. The children then stir their drinks.

Will the drink in two of the glasses taste the same?
Circle 'yes' or 'no'.

If you answered yes, tick the glasses that you think have squash with the same taste.

[Editing: The response recorded on the coding sheet for part 1 of the question (whether the drinks in two of the glasses will taste the same) is presented as SK231, with Y recoded to 1, N to 2 and blanks to -5. The response recorded on the coding sheet for part 2 of the question (which two glasses taste the same) is presented as SK241, with L, M, LM, R, LR, MR recoded to 1 to 6 respectively and blanks to -5. If both variables were omitted then they were set to -6. If the response to part 1 was N then SK241 was set to -2.

An indicator of whether the child got the correct answer for part 1 was derived as SK230 by recoding (1 = 1)(else = 2) in SK231. Similarly, an indicator of whether the child got the correct answer for part 2 was derived as SK240 by recoding (6 = 1)(else = 2) in SK241. Indicators of whether the child attempted each part of the question were derived as SK232 and SK242 by recoding (-6, -5 = 2)(else = 1) in SK231 and (-6, -5, -2 = 2)(else = 1) in SK241.]

sk230 Question 12, part 1 (orange squash 1, taste) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2194	64.8	64.8	64.8
	2 No	1191	35.2	35.2	100.0
	Total	3385	100.0	100.0	

sk231 Question 12, part 1 (orange squash 1, taste): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2194	64.8	66.3	66.3
	2 No	1113	32.9	33.7	100.0
	Total	3307	97.7	100.0	
Missing	-6 Question 12 omitted	60	1.8		
	-5 Part 1 omitted	18	.5		
	Total	78	2.3		
Total		3385	100.0		

sk232 Question 12, part 1 (orange squash 1, taste) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3307	97.7	97.7	97.7
	2 No	78	2.3	2.3	100.0
	Total	3385	100.0	100.0	

sk240 Question 12, part 2 (orange squash 1, glasses with same taste) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	1801	53.2	53.2	53.2
	2 No	1584	46.8	46.8	100.0
	Total	3385	100.0	100.0	

sk241 Question 12, part 2 (orange squash 1, glasses with same taste): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Glass 1	2	.1	.1	.1
	2 Glass 2	6	.2	.3	.4
	3 Glasses 1 & 2	119	3.5	5.8	6.2
	4 Glass 3	2	.1	.1	6.3
	5 Glasses 1 & 3	133	3.9	6.4	12.7
	6 Glasses 2 & 3	1801	53.2	87.3	100.0
	Total	2063	60.9	100.0	
Missing	-6 Question 12 omitted	60	1.8		
	-5 Part 2 omitted	149	4.4		
	-2 Answered 'no' in part 1	1113	32.9		
	Total	1322	39.1		
Total		3385	100.0		

sk242 Question 12, part 2 (orange squash 1, glasses with same taste) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2063	60.9	60.9	60.9
	2 No	1322	39.1	39.1	100.0
	Total	3385	100.0	100.0	

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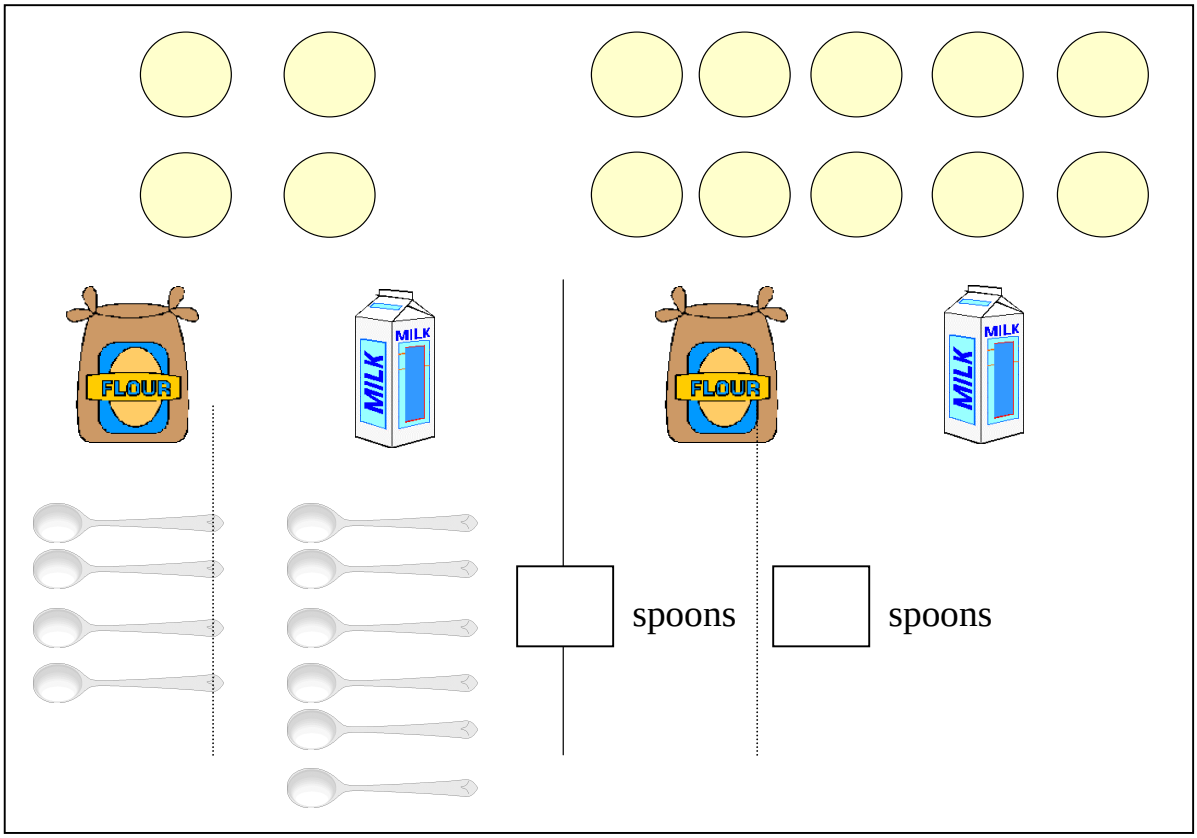


When you make pancakes if you use too much flour the mixture gets too thick. If you use too much milk the mixture gets too thin.

To make 4 good pancakes, you need to mix 4 spoons of flour with 6 spoons of milk.
If you want to make 10 good pancakes, how much flour do you need? Write the number of spoons.

How much milk do you need for 10 good pancakes? Write the number of spoons.

[Editing: The responses recorded on the coding sheet for part 1 (flour) and part 2 (milk) are presented as SK251 and SK261 respectively, with XX recoded to -2 and blanks to -5. If both variables were omitted then they were set to -6.

An indicator of whether the child got the answer correct for part 1 was derived as SK250 by recoding (10 = 1)(else = 2) in SK251. Similarly, an indicator of whether the child got the correct answer for part 2 was derived as SK260 by recoding (15 = 1)(else = 2) in SK261. Indicators of whether the child attempted each part of the question were derived as SK252 and SK262 by recoding (-6, -5 = 2)(else = 1) in SK251 and SK261.]

sk250 Question 13, part 1 (pancakes, flour) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2711	80.1	80.1	80.1
	2 No	674	19.9	19.9	100.0
	Total	3385	100.0	100.0	

sk251 Question 13, part 1 (pancakes, flour): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	.0	.0	.0
	1	1	.0	.0	.1
	2	5	.1	.2	.2
	3	5	.1	.2	.4
	4	22	.6	.7	1.0
	5	22	.6	.7	1.7
	6	35	1.0	1.1	2.8
	7	10	.3	.3	3.1
	8	74	2.2	2.3	5.4
	9	59	1.7	1.8	7.2
	10	2711	80.1	83.1	90.3
	11	1	.0	.0	90.3
	12	54	1.6	1.7	92.0
	14	26	.8	.8	92.8
	15	4	.1	.1	92.9
	16	15	.4	.5	93.4
	18	4	.1	.1	93.5
	20	40	1.2	1.2	94.7
	24	14	.4	.4	95.2
	25	1	.0	.0	95.2
	28	3	.1	.1	95.3
	30	1	.0	.0	95.3
	32	2	.1	.1	95.4
	34	1	.0	.0	95.4
	35	1	.0	.0	95.4
	38	1	.0	.0	95.5
	39	1	.0	.0	95.5
	40	143	4.2	4.4	99.9
	49	1	.0	.0	99.9
	60	1	.0	.0	99.9
	70	2	.1	.1	100.0
	Total	3261	96.3	100.0	
Missing	-6 Question 13 omitted	95	2.8		
	-5 Part 1 omitted	2	.1		
	-2 Other response	27	.8		
	Total	124	3.7		
Total		3385	100.0		

sk252 Question 13, part 1 (pancakes, flour) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3288	97.1	97.1	97.1
	2 No	97	2.9	2.9	100.0
	Total	3385	100.0	100.0	

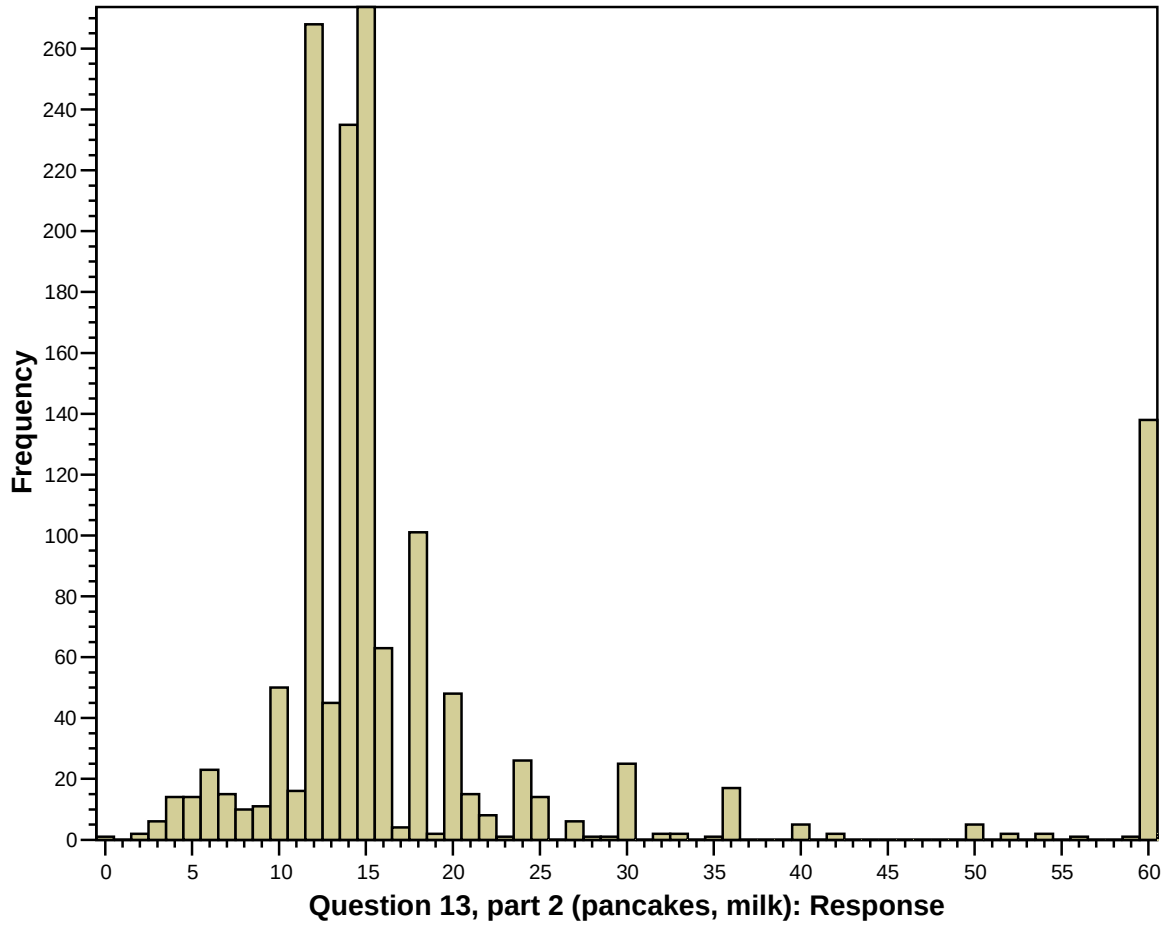
sk260 Question 13, part 2 (pancakes, milk) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	1996	59.0	59.0	59.0
	2 No	1389	41.0	41.0	100.0
	Total	3385	100.0	100.0	

sk262 Question 13, part 2 (pancakes, milk) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3248	96.0	96.0	96.0
	2 No	137	4.0	4.0	100.0
	Total	3385	100.0	100.0	

sk261 Question 13, part 2 (pancakes, milk): Response



where the frequency of value 15 is 1,996 and plus the following missing values and outliers >60:

sk261 Question 13, part 2 (pancakes, milk): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	61	1	.5	10.0	10.0
	62	1	.5	10.0	20.0
	65	1	.5	10.0	30.0
	69	1	.5	10.0	40.0
	70	1	.5	10.0	50.0
	72	2	1.1	20.0	70.0
	73	1	.5	10.0	80.0
	80	1	.5	10.0	90.0
	85	1	.5	10.0	100.0
	Total	10	5.4	100.0	
Missing	-6 Question 13 omitted	95	51.1		
	-5 Part 2 omitted	42	22.6		
	-2 Other response	39	21.0		
	Total	176	94.6		
Total		186	100.0		

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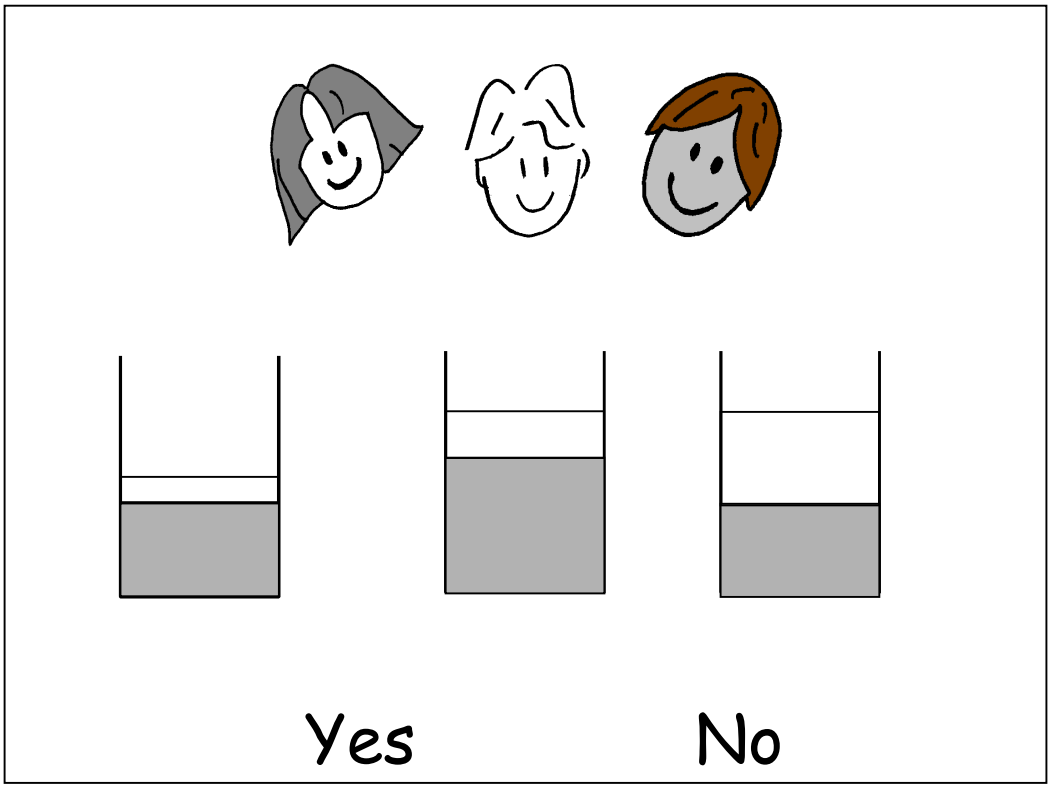

Three children are making orange squash
(if the children don't understand this, try saying that the children are making a brand name drink like Ribena.)

In the picture the orange squash is grey and the water is white. The children then stir their drinks.

Will the drink in two of the glasses taste the same? Circle 'yes' or 'no'.

If you answered yes, tick the glasses that you think have squash with the same taste.

[Editing: The response recorded on the coding sheet for part 1 of the question (whether the drinks in two of the glasses will taste the same) is presented as SK271, with Y recoded to 1, N to 2 and blanks to -5. The response recorded on the coding sheet for part 2 of the question (which two glasses taste the same) is presented as SK281, with L, M, LM, R, LR, MR recoded to 1 to 6 respectively and blanks to -5. If both variables were omitted then they were set to -6. If the response to part 1 was N then SK281 was set to -2.

An indicator of whether the child got the correct answer for part 1 was derived as SK270 by recoding (1 = 1)(else = 2) in SK271. Similarly, an indicator of whether the child got the correct answer for part 2 was derived as SK280 by recoding (3 = 1)(else = 2) in SK281. Indicators of whether the child attempted each part of the question were derived as SK272 and SK282 by recoding (-6, -5 = 2)(else = 1) in SK271 and (-6, -5, -2 = 2)(else = 1) in SK281.]

sk270 Question 14, part 1 (orange squash 2, taste) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	864	25.5	25.5	25.5
	2 No	2521	74.5	74.5	100.0
	Total	3385	100.0	100.0	

sk271 Question 14, part 1 (orange squash 2, taste): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	864	25.5	26.0	26.0
	2 No	2459	72.6	74.0	100.0
	Total	3323	98.2	100.0	
Missing	-6 Question 14 omitted	55	1.6		
	-5 Part 1 omitted	7	.2		
	Total	62	1.8		
Total		3385	100.0		

sk272 Question 14, part 1 (orange squash 2, taste) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3323	98.2	98.2	98.2
	2 No	62	1.8	1.8	100.0
	Total	3385	100.0	100.0	

sk280 Question 14, part 2 (orange squash 2, glasses with same taste) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	616	18.2	18.2	18.2
	2 No	2769	81.8	81.8	100.0
	Total	3385	100.0	100.0	

sk281 Question 14, part 2 (orange squash 2, glasses with same taste): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Glass 1	1	.0	.1	.1
	2 Glass 2	3	.1	.4	.5
	3 Glasses 1 & 2	616	18.2	75.8	76.3
	4 Glass 3	2	.1	.2	76.5
	5 Glasses 1 & 3	61	1.8	7.5	84.0
	6 Glasses 2 & 3	130	3.8	16.0	100.0
	Total	813	24.0	100.0	
Missing	-6 Question 14 omitted	55	1.6		
	-5 Part 2 omitted	58	1.7		
	-2 Answered 'no' in part 1	2459	72.6		
	Total	2572	76.0		
Total		3385	100.0		

sk282 Question 14, part 2 (orange squash 2, glasses with same taste) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	813	24.0	24.0	24.0
	2 No	2572	76.0	76.0	100.0
	Total	3385	100.0	100.0	

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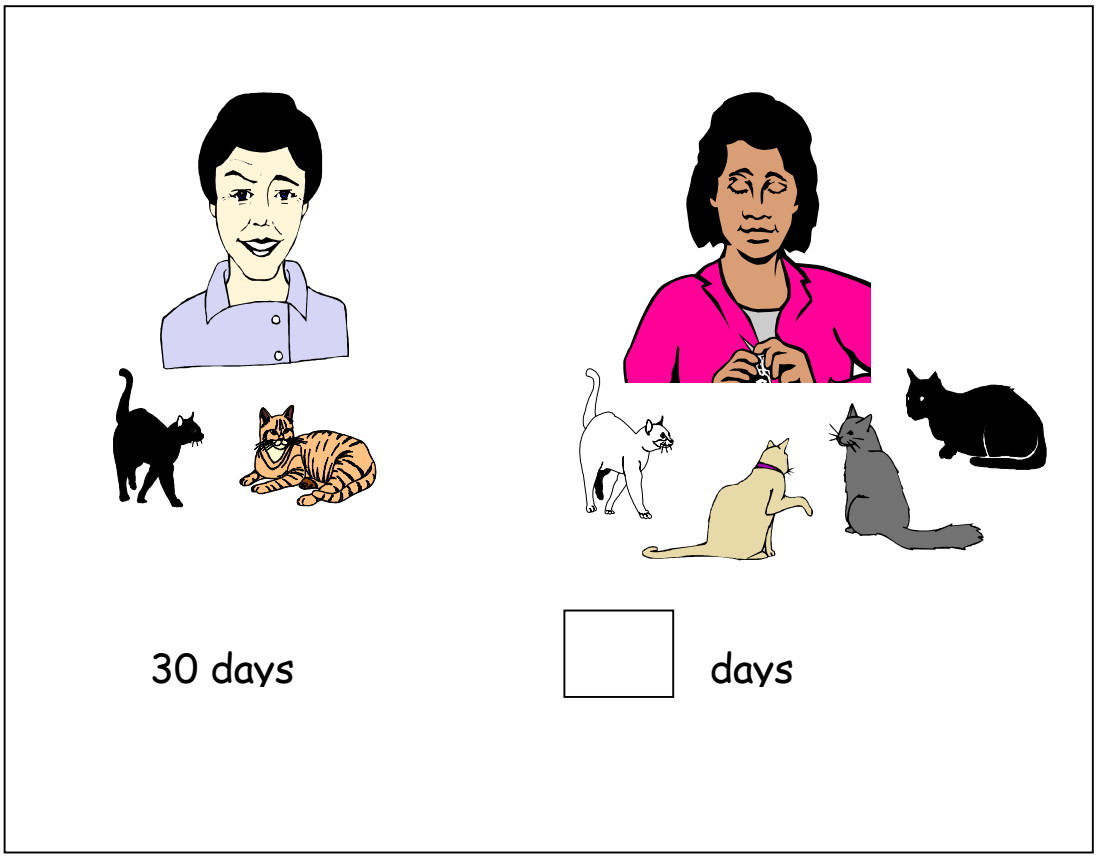

Mrs Green has two cats. Mrs Patel has four cats. All the cats eat the same amount each day. The two women went out together to buy cat food. They bought the same amount of cat food.

Mrs Green said that the food she bought is enough for her cats to eat for 30 days. How long do you think the food Mrs Patel bought will last?

[Editing: The response recorded on the coding sheet is presented as SK291, with XX recoded to -2 and blanks to -6. An indicator of whether the child got the answer correct was derived as SK290 by recoding (15 = 1)(else = 2) in SK291. An indicator of whether the child attempted the question was derived as SK292 by recoding (-6 = 2)(else = 1) in SK291.]

sk290 Question 15 (cat food) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2966	87.6	87.6	87.6
	2 No	419	12.4	12.4	100.0
	Total	3385	100.0	100.0	

sk291 Question 15 (cat food): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.0	.0	.0
	2	1	.0	.0	.1
	3	1	.0	.0	.1
	4	1	.0	.0	.1
	5	7	.2	.2	.3
	6	5	.1	.2	.5
	7	7	.2	.2	.7
	8	3	.1	.1	.8
	9	2	.1	.1	.8
	10	28	.8	.8	1.7
	12	2	.1	.1	1.8
	13	7	.2	.2	2.0
	14	2	.1	.1	2.0
	15	2966	87.6	89.7	91.7
	16	2	.1	.1	91.7
	19	1	.0	.0	91.8
	20	17	.5	.5	92.3
	21	1	.0	.0	92.3
	25	3	.1	.1	92.4
	28	2	.1	.1	92.5
	29	1	.0	.0	92.5
	30	14	.4	.4	92.9
	32	1	.0	.0	93.0
	34	1	.0	.0	93.0
	35	1	.0	.0	93.0
	40	2	.1	.1	93.1
	45	3	.1	.1	93.2
	50	7	.2	.2	93.4
	55	2	.1	.1	93.4
	60	211	6.2	6.4	99.8
	70	3	.1	.1	99.9
	75	1	.0	.0	99.9
	90	1	.0	.0	100.0
	95	1	.0	.0	100.0
	Total	3308	97.7	100.0	
Missing	-6 Question 15 omitted	70	2.1		
	-2 Other response	7	.2		
	Total	77	2.3		
Total		3385	100.0		

sk292 Question 15 (cat food) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3315	97.9	97.9	97.9
	2 No	70	2.1	2.1	100.0
	Total	3385	100.0	100.0	

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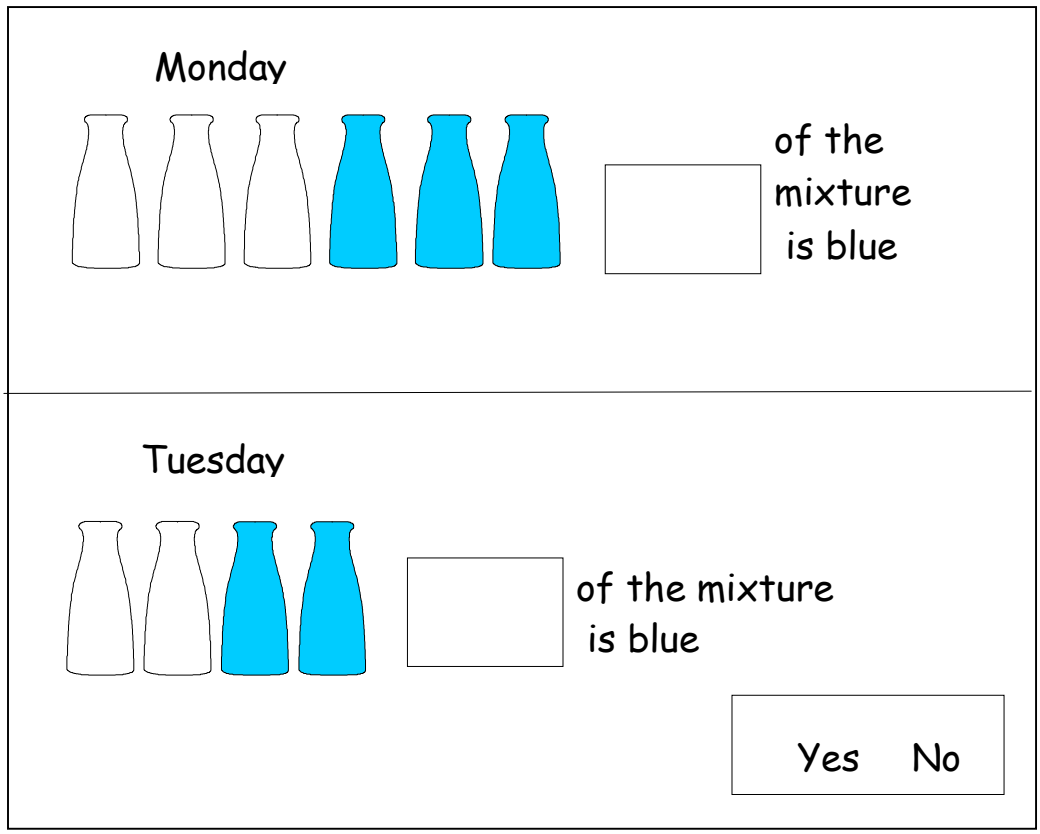

Imagine you are mixing paint.

On Monday you mix 3 bottles of white and 3 of blue (appears grey in the picture).

On Tuesday you mix 2 bottles of white and 2 of blue.

Will the colour of the mixed paint look the same on Monday as Tuesday?

Circle 'yes' or 'no' in the box at the bottom of the picture.

Let's look at Monday. What fraction of the paint is blue on Monday?

Write your answer in the box.

Let's look at Tuesday. What fraction of the paint is blue on Tuesday?

Write your answer in the box.

[Editing: The response recorded on the coding sheet for part 1 of the question (whether the colour of the paint mixed on Monday is the same as that mixed on Tuesday) is presented as SK301, with Y recoded to 1, N to 2 and blanks to -5. The responses recorded on the coding sheet for parts 2 and 3 of the question (the fractions of the paint that are blue on Monday and Tuesday respectively) are presented as SK311 and SK321, with X recoded to -2 and blanks to -5. If all three variables were omitted then they were set to -6.

Indicators of whether the child got the correct answer for each part were derived as SK300, SK310 and SK320 by recoding (1 = 1)(else = 2) in SK301, SK311 and SK321. Indicators of whether the child attempted each part of the question were derived as SK302, SK312 and SK322 by recoding (-6, -5 = 2)(else = 1) in SK301, SK311 and SK321.]

sk300 Question 16, part 1 (mixing paint, same colour) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2789	82.4	82.4	82.4
	2 No	596	17.6	17.6	100.0
	Total	3385	100.0	100.0	

sk301 Question 16, part 1 (mixing paint, same colour): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2789	82.4	85.1	85.1
	2 No	487	14.4	14.9	100.0
	Total	3276	96.8	100.0	
Missing	-6 Question 16 omitted	56	1.7		
	-5 Part 1 omitted	53	1.6		
	Total	109	3.2		
Total		3385	100.0		

sk302 Question 16, part 1 (mixing paint, same colour) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3276	96.8	96.8	96.8
	2 No	109	3.2	3.2	100.0
	Total	3385	100.0	100.0	

sk310 Question 16, part 2 (mixing paint, Monday) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2754	81.4	81.4	81.4
	2 No	631	18.6	18.6	100.0
	Total	3385	100.0	100.0	

sk311 Question 16, part 2 (mixing paint, Monday): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 50% or 1/2	2754	81.4	89.2	89.2
	2 3/6, 2/4 etc.	335	9.9	10.8	100.0
	Total	3089	91.3	100.0	
Missing	-6 Question 16 omitted	56	1.7		
	-5 Part 2 omitted	82	2.4		
	-2 Other response	158	4.7		
	Total	296	8.7		
Total		3385	100.0		

sk312 Question 16, part 2 (mixing paint, Monday) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3247	95.9	95.9	95.9
	2 No	138	4.1	4.1	100.0
	Total	3385	100.0	100.0	

sk320 Question 16, part 3 (mixing paint, Tuesday) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2780	82.1	82.1	82.1
	2 No	605	17.9	17.9	100.0
	Total	3385	100.0	100.0	

sk321 Question 16, part 3 (mixing paint, Tuesday): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 50% or 1/2	2780	82.1	89.7	89.7
	2 3/6, 2/4 etc.	318	9.4	10.3	100.0
	Total	3098	91.5	100.0	
Missing	-6 Question 16 omitted	56	1.7		
	-5 Part 3 omitted	99	2.9		
	-2 Other response	132	3.9		
	Total	287	8.5		
Total		3385	100.0		

sk322 Question 16, part 3 (mixing paint, Tuesday) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3230	95.4	95.4	95.4
	2 No	155	4.6	4.6	100.0
	Total	3385	100.0	100.0	

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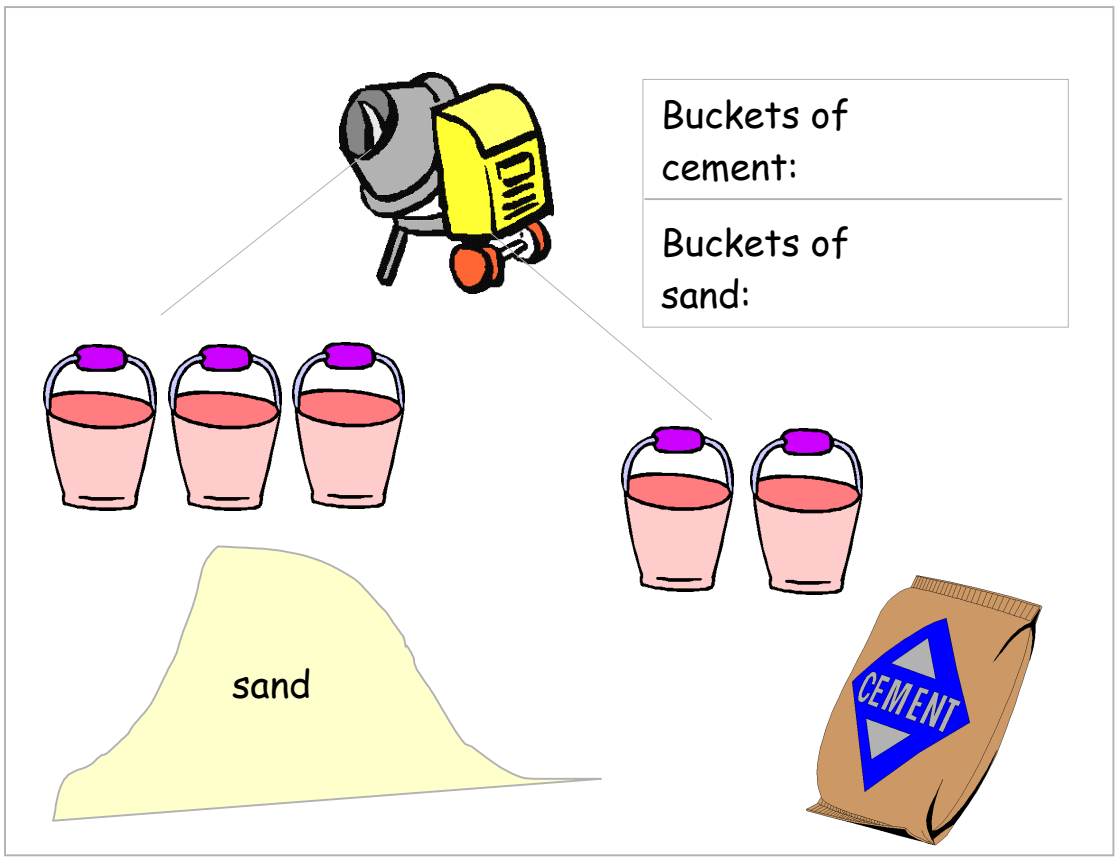


To make concrete you mix sand and cement.

If you put too much cement it gets too hard. And with too much sand it crumbles.

To make 5 buckets of concrete you have to mix 3 buckets of sand for every 2 buckets of cement.

A builder needs to prepare 15 buckets of concrete.

How much sand will he use? Put the answer in the box.

How much cement will he use? Put the answer in the box.

[Editing: The responses recorded on the coding sheet for part 1 (sand) and part 2 (cement) are presented as SK331 and SK341 respectively, with XX recoded to -2 and blanks to -5. If both variables were omitted then they were set to -6.

An indicator of whether the child got the answer correct for part 1 was derived as SK330 by recoding (9 = 1)(else = 2) in SK331. Similarly, an indicator of whether the child got the correct answer for part 2 was derived as SK340 by recoding (6 = 1)(else = 2) in SK341. Indicators of whether the child attempted each part of the question were derived as SK332 and SK342 by recoding (-6, -5 = 2)(else = 1) in SK331 and SK341.]

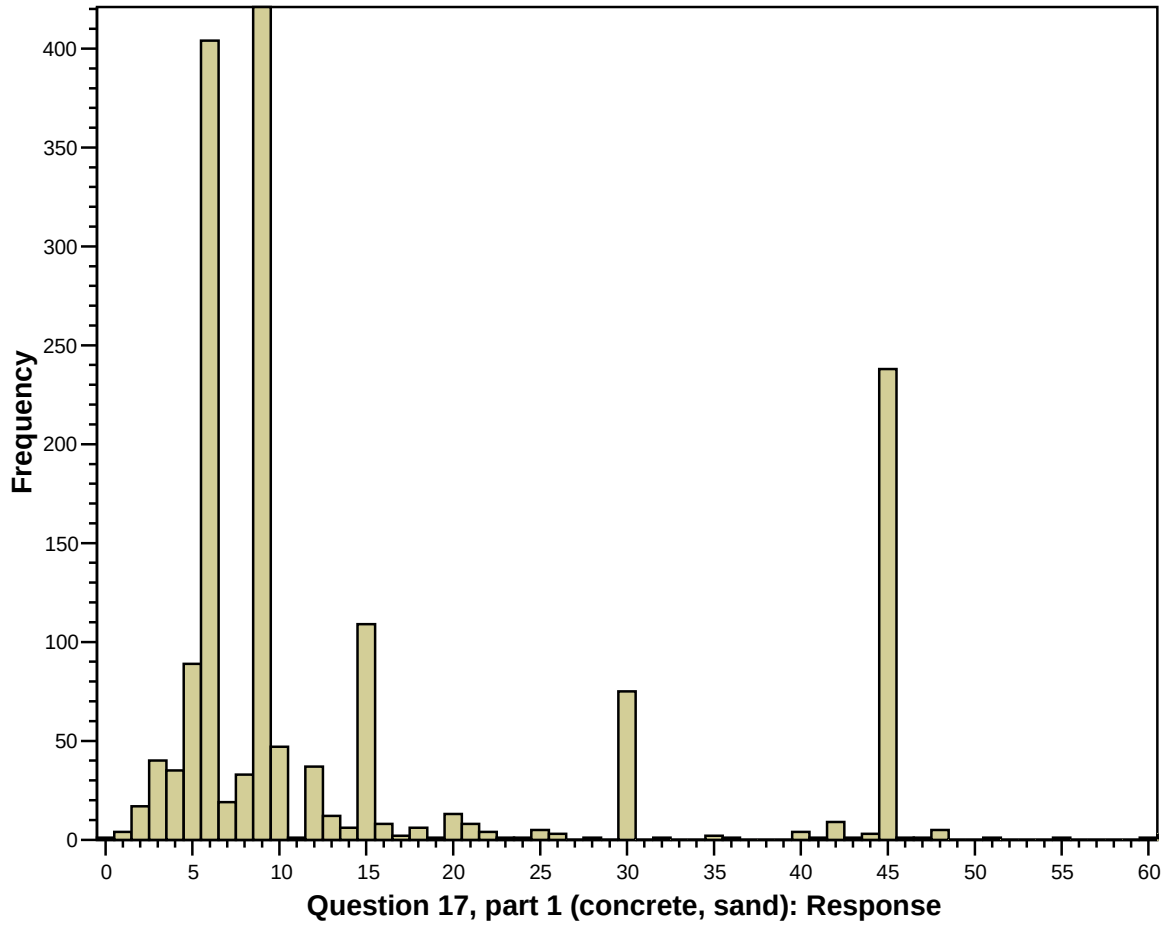
sk330 Question 17, part 1 (concrete, sand) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	1794	53.0	53.0	53.0
	2 No	1591	47.0	47.0	100.0
	Total	3385	100.0	100.0	

sk332 Question 17, part 1 (concrete, sand) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3094	91.4	91.4	91.4
	2 No	291	8.6	8.6	100.0
	Total	3385	100.0	100.0	

sk331 Question 17, part 1 (concrete, sand): Response



where the frequency of value 9 is 1,794 and plus the following missing values and outliers >60:

sk331 Question 17, part 1 (concrete, sand): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	65	1	.3	12.5	12.5
	69	3	.9	37.5	50.0
	71	1	.3	12.5	62.5
	75	3	.9	37.5	100.0
	Total	8	2.4	100.0	
Missing	-6 Question 17 omitted	261	77.0		
	-5 Part 1 omitted	30	8.8		
	-2 Other response	40	11.8		
	Total	331	97.6		
Total		339	100.0		

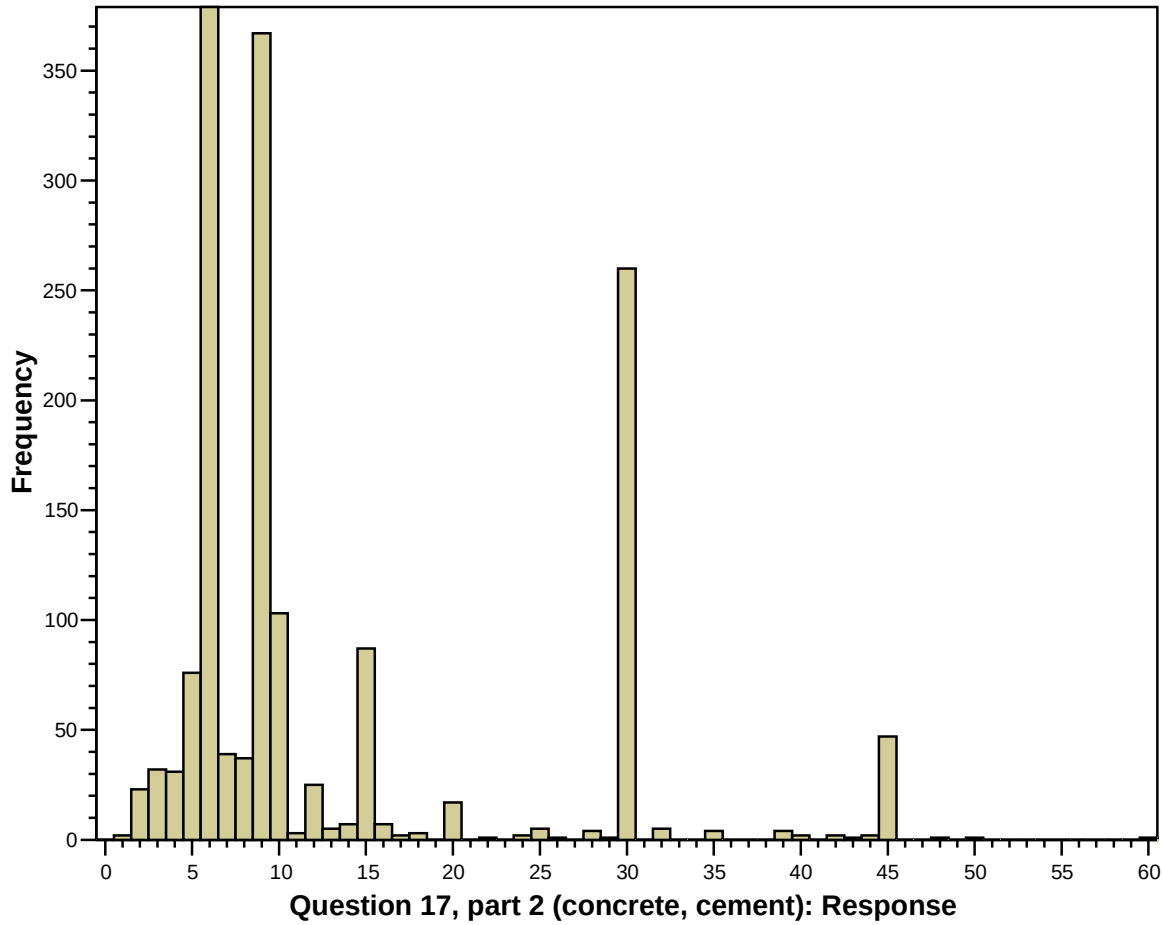
sk340 Question 17, part 2 (concrete, cement) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	1800	53.2	53.2	53.2
	2 No	1585	46.8	46.8	100.0
	Total	3385	100.0	100.0	

sk342 Question 17, part 2 (concrete, cement) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3068	90.6	90.6	90.6
	2 No	317	9.4	9.4	100.0
	Total	3385	100.0	100.0	

sk341 Question 17, part 2 (concrete, cement): Response



where the frequency of value 6 is 1,800 and plus the following missing values and outliers >60:

sk341 Question 17, part 2 (concrete, cement): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	69	1	.3	16.7	16.7
	71	1	.3	16.7	33.3
	72	1	.3	16.7	50.0
	73	1	.3	16.7	66.7
	75	1	.3	16.7	83.3
	90	1	.3	16.7	100.0
	Total	6	1.6	100.0	
Missing	-6 Question 17 omitted	261	69.6		
	-5 Part 2 omitted	56	14.9		
	-2 Other response	52	13.9		
	Total	369	98.4		
Total		375	100.0		

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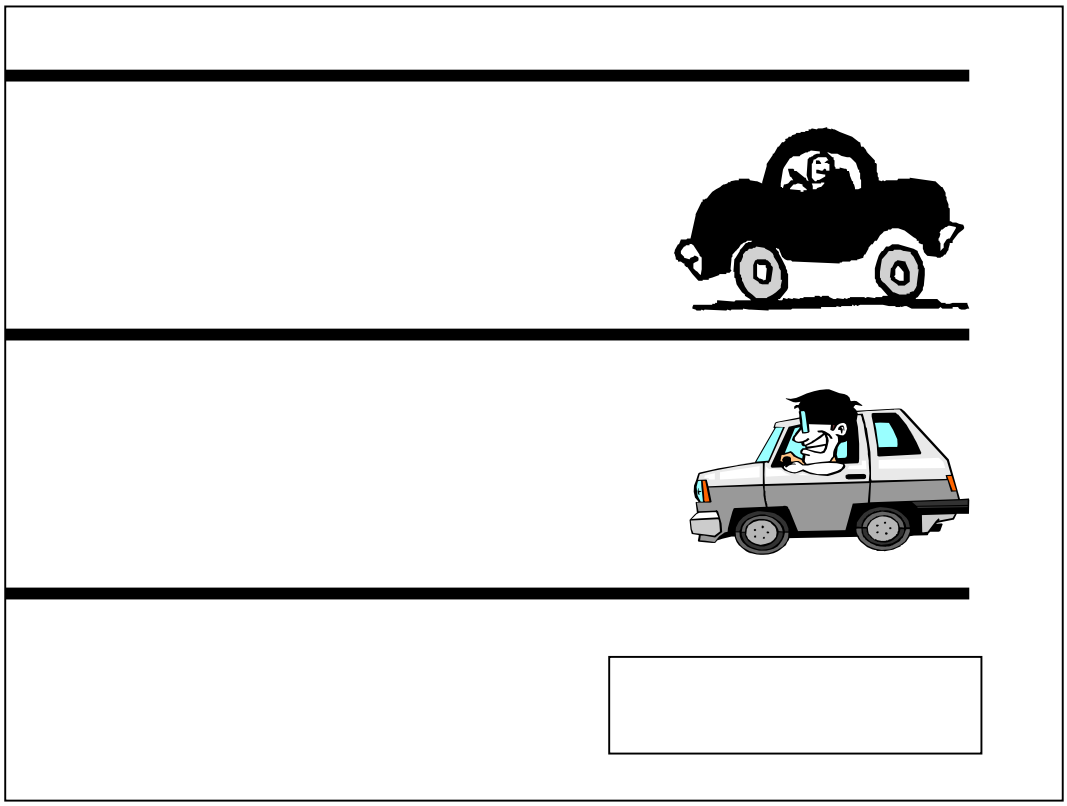

The two cars are travelling on the same road and going to the same place.

The black car is travelling at 50 miles per hour. It will take 3 hours for it to get to the destination.

The grey car is travelling at 75 miles per hour. How long will it take for the grey car to reach the destination? Write your answer in the box. Don't forget the unit of measurement.

[Editing: The hours component of the response recorded on the coding sheet is presented as SK353a, with X recoded to -2 and blanks to -1. The minutes component of the response recorded on the coding sheet is presented as SK353b, with XX recoded to -2 and blanks to -1. The indicator for correct units component of the response recorded on the coding sheet is presented as SK354, with Y recoded to 1, N to 2 and blanks to -1. If all three variables were omitted then they were set to -6, otherwise values of -1 in SK354 were recoded to 3.

The response in hours and minutes was calculated as SK351a and SK351b by setting them equal to SK353a and SK353b if SK354 = 1 and to -3 if SK354 = 2 or 3. Missing values of -6, -2 and -1 were copied across. An indicator of whether the child got the correct answer was derived as SK350 by setting it to 1 if SK351a = 2 and SK351b = 0 and to 2 otherwise. An indicator of whether the child attempted the question was derived as SK352 by recoding (-6 = 2)(else = 1) in SK351a.]

sk350 Question 18 (cars) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	1051	31.0	31.0	31.0
	2 No	2334	69.0	69.0	100.0
	Total	3385	100.0	100.0	

sk351a Question 18 (cars): Response in hours/minutes (hours)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	39	1.2	1.4	1.4
	1	645	19.1	23.9	25.3
	2	1762	52.1	65.2	90.6
	3	34	1.0	1.3	91.8
	4	180	5.3	6.7	98.5
	5	31	.9	1.1	99.6
	6	4	.1	.1	99.8
	7	4	.1	.1	99.9
	8	1	.0	.0	100.0
	9	1	.0	.0	100.0
	Total	2701	79.8	100.0	
Missing	-6 Question 18 omitted	354	10.5		
	-3 Correct unit not stated	300	8.9		
	-2 Other response	27	.8		
	-1 Unit only stated	3	.1		
	Total	684	20.2		
Total		3385	100.0		

sk351b Question 18 (cars): Response in hours/minutes (minutes)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1150	34.0	42.6	42.6
	1	1	.0	.0	42.6
	2	4	.1	.1	42.8
	3	2	.1	.1	42.8
	5	15	.4	.6	43.4
	7	3	.1	.1	43.5
	10	9	.3	.3	43.8
	11	1	.0	.0	43.9
	12	1	.0	.0	43.9
	15	173	5.1	6.4	50.3
	16	1	.0	.0	50.4
	20	18	.5	.7	51.0
	24	1	.0	.0	51.1
	25	91	2.7	3.4	54.4
	30	953	28.2	35.3	89.7
	34	1	.0	.0	89.7
	35	45	1.3	1.7	91.4
	36	3	.1	.1	91.5
	40	12	.4	.4	92.0
	42	1	.0	.0	92.0
	45	160	4.7	5.9	97.9
	48	1	.0	.0	98.0
	50	40	1.2	1.5	99.4
	54	1	.0	.0	99.5
	55	14	.4	.5	100.0
	Total	2701	79.8	100.0	
Missing	-6 Question 18 omitted	354	10.5		
	-3 Correct unit not stated	300	8.9		
	-2 Other response	26	.8		
	-1 Unit only stated	4	.1		
	Total	684	20.2		
Total		3385	100.0		

sk352 Question 18 (cars) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3031	89.5	89.5	89.5
	2 No	354	10.5	10.5	100.0
	Total	3385	100.0	100.0	

sk353a Question 18 (cars): Value (hours)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	41	1.2	1.4	1.4
	1	716	21.2	24.3	25.6
	2	1917	56.6	64.9	90.6
	3	40	1.2	1.4	91.9
	4	188	5.6	6.4	98.3
	5	37	1.1	1.3	99.6
	6	5	.1	.2	99.7
	7	6	.2	.2	99.9
	8	1	.0	.0	100.0
	9	1	.0	.0	100.0
	Total	2952	87.2	100.0	
Missing	-6 Question 18 omitted	354	10.5		
	-2 Other response	73	2.2		
	-1 Unit only stated	6	.2		
	Total	433	12.8		
Total		3385	100.0		

sk353b Question 18 (cars): Value (minutes)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1215	35.9	41.2	41.2
	1	1	.0	.0	41.2
	2	4	.1	.1	41.3
	3	2	.1	.1	41.4
	5	15	.4	.5	41.9
	7	3	.1	.1	42.0
	10	9	.3	.3	42.3
	11	1	.0	.0	42.4
	12	3	.1	.1	42.5
	15	189	5.6	6.4	48.9
	16	1	.0	.0	48.9
	20	18	.5	.6	49.5
	24	1	.0	.0	49.5
	25	102	3.0	3.5	53.0
	30	1059	31.3	35.9	88.9
	34	1	.0	.0	88.9
	35	51	1.5	1.7	90.6
	36	3	.1	.1	90.7
	40	12	.4	.4	91.2
	42	1	.0	.0	91.2
	44	1	.0	.0	91.2
	45	192	5.7	6.5	97.7
	48	1	.0	.0	97.8
	50	48	1.4	1.6	99.4
	54	1	.0	.0	99.4
	55	17	.5	.6	100.0
	Total	2951	87.2	100.0	
Missing	-6 Question 18 omitted	354	10.5		
	-2 Other response	72	2.1		
	-1 Unit only stated	8	.2		
	Total	434	12.8		
Total		3385	100.0		

sk354 Question 18 (cars): Unit stated

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes, correct	2731	80.7	90.1	90.1
	2 Yes, incorrect	107	3.2	3.5	93.6
	3 No	193	5.7	6.4	100.0
	Total	3031	89.5	100.0	
Missing	-6 Question 18 omitted	354	10.5		
Total		3385	100.0		

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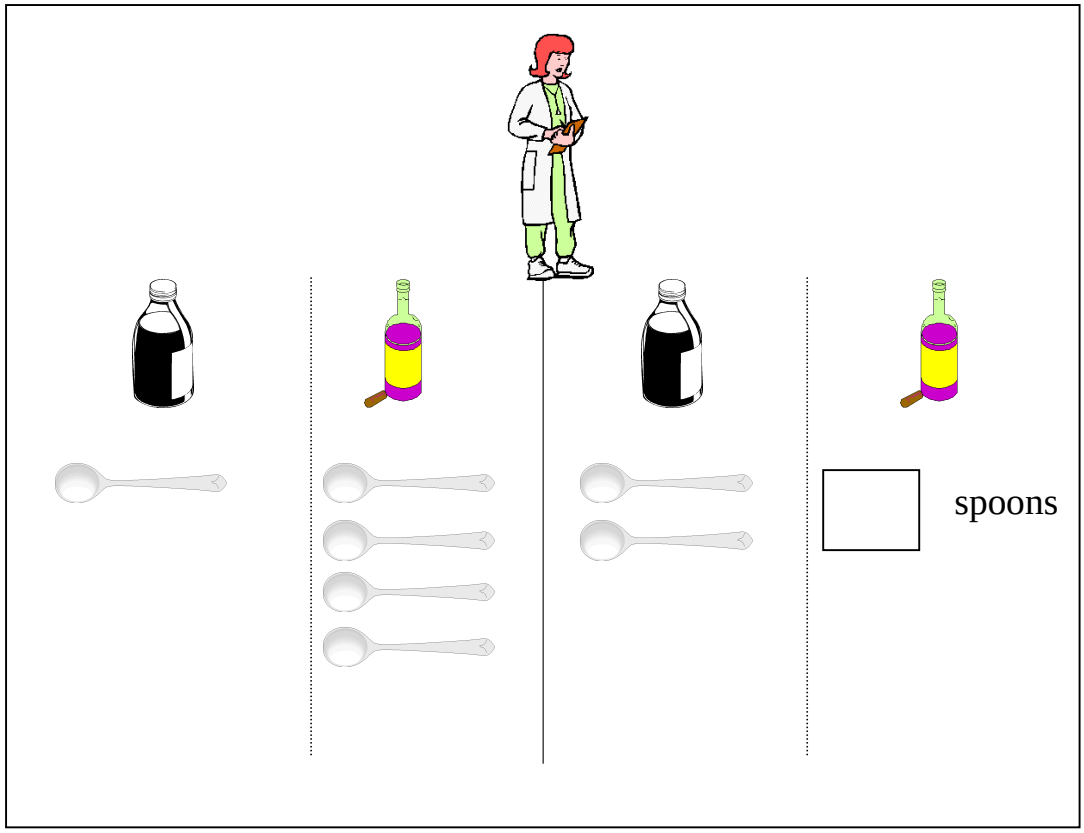

There is a medicine that is very bitter and the chemist mixes it with syrup for the children to make it taste better.

Yesterday she mixed 1 spoon of medicine with 4 spoons of syrup.
Today she had to make more mixture and she will have to use 2 spoons of medicine.

How many spoons of syrup will she need for the mixture to taste the same as yesterday.

Write the number of spoons under the syrup bottle.

[Editing: The response recorded on the coding sheet is presented as SK361, with X recoded to -2 and blanks to -6. An indicator of whether the child got the answer correct was derived as SK360 by recoding (8 = 1)(else = 2) in SK361. An indicator of whether the child attempted the question was derived as SK362 by recoding (-6 = 2)(else = 1) in SK361.]

sk360 Question 19 (medicine) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2930	86.6	86.6	86.6
	2 No	455	13.4	13.4	100.0
	Total	3385	100.0	100.0	

sk361 Question 19 (medicine): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	.0	.0	.0
	1	7	.2	.2	.2
	2	15	.4	.5	.7
	3	42	1.2	1.3	2.0
	4	28	.8	.9	2.9
	5	113	3.3	3.5	6.4
	6	42	1.2	1.3	7.7
	7	25	.7	.8	8.5
	8	2930	86.6	91.4	99.9
	9	2	.1	.1	100.0
	Total	3205	94.7	100.0	
Missing	-6 Question 19 omitted	146	4.3		
	-2 Other response	34	1.0		
	Total	180	5.3		
Total		3385	100.0		

sk362 Question 19 (medicine) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3239	95.7	95.7	95.7
	2 No	146	4.3	4.3	100.0
	Total	3385	100.0	100.0	

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Many thanks for you help
Please return this booklet together with those of the child(ren) to:

Professor Jean Golding
Children of the Nineties – ALSPAC
Institute of Child Health
24 Tyndall Avenue
Bristol
BS8 1BR Tel: Bristol 928 8487

Derived Variables

Number of question parts answered correctly

This was derived as SK370:

sk370 # Question parts answered correctly

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	2	.1	.1	.1
	1	6	.2	.2	.2
	2	5	.1	.1	.4
	3	8	.2	.2	.6
	4	10	.3	.3	.9
	5	18	.5	.5	1.4
	6	22	.6	.6	2.1
	7	29	.9	.9	3.0
	8	36	1.1	1.1	4.0
	9	59	1.7	1.7	5.8
	10	43	1.3	1.3	7.0
	11	66	1.9	1.9	9.0
	12	72	2.1	2.1	11.1
	13	80	2.4	2.4	13.5
	14	95	2.8	2.8	16.3
	15	79	2.3	2.3	18.6
	16	90	2.7	2.7	21.3
	17	115	3.4	3.4	24.7
	18	102	3.0	3.0	27.7
	19	108	3.2	3.2	30.9
	20	127	3.8	3.8	34.6
	21	99	2.9	2.9	37.5
	22	138	4.1	4.1	41.6
	23	146	4.3	4.3	45.9
	24	152	4.5	4.5	50.4
	25	178	5.3	5.3	55.7
	26	186	5.5	5.5	61.2
	27	187	5.5	5.5	66.7
	28	226	6.7	6.7	73.4
	29	204	6.0	6.0	79.4
	30	219	6.5	6.5	85.9
	31	169	5.0	5.0	90.9
	32	138	4.1	4.1	94.9
	33	109	3.2	3.2	98.2
	34	45	1.3	1.3	99.5
	35	17	.5	.5	100.0
	Total	3385	100.0	100.0	

Number of question parts attempted
This was derived as SK371:

sk371 # Question parts attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	.0	.0	.0
	1	4	.1	.1	.1
	3	4	.1	.1	.3
	4	4	.1	.1	.4
	5	2	.1	.1	.4
	6	1	.0	.0	.5
	7	1	.0	.0	.5
	9	2	.1	.1	.6
	10	3	.1	.1	.6
	11	1	.0	.0	.7
	12	3	.1	.1	.8
	13	4	.1	.1	.9
	15	1	.0	.0	.9
	16	6	.2	.2	1.1
	17	5	.1	.1	1.2
	18	8	.2	.2	1.5
	19	15	.4	.4	1.9
	20	15	.4	.4	2.4
	21	9	.3	.3	2.6
	22	15	.4	.4	3.1
	23	24	.7	.7	3.8
	24	26	.8	.8	4.5
	25	40	1.2	1.2	5.7
	26	48	1.4	1.4	7.1
	27	73	2.2	2.2	9.3
	28	96	2.8	2.8	12.1
	29	114	3.4	3.4	15.5
	30	172	5.1	5.1	20.6
	31	270	8.0	8.0	28.6
	32	458	13.5	13.5	42.1
	33	714	21.1	21.1	63.2
	34	952	28.1	28.1	91.3
	35	294	8.7	8.7	100.0
	Total	3385	100.0	100.0	

2005 MATHS TEST – YEAR 8

Q1-3. Transcribe numbers using 04 for 4 etc. code xx if fraction or over 99 or other

Q1. accept 9.1 as 9

Q2.

Q3.

Q4. Look at the picture of Game 1 and write down the no. of balls the child has drawn in the white, grey and in the tube areas. (No balls in a particular area = 0)

Do the same for Game 2.

Q4. White Grey Tube

Game 1. if over 9 put x

Game 2.

Q5-7. Put what the child has written, write L for lost and W for won. If the child has indicated these with a minus or plus sign, put L for minus and W for plus. Code xx for over 99.

Q5. sign no.

Game 1.

Game 2.

Game 3.

Final.

Q6. sign no.

Game 1.

Game 2.

Game 3.

Q7. sign no.

Game 1.

Game 2.

Game 3.

Q8. Code as for Q1

Q9. S = same, D = different

R = right, L = left, (Not stated = blank). If answer is indicated by a ring around one code box or one of the diagrams, count this as the answer.

Q10.

Tape [ ][ ] code as for Q1.

Metres or m. stated [ ] Y= yes, N= other given, (Not stated = blank)

Paint [ ][ ] code as for Q1.

Sq.m or m^2 stated [ ] Y= yes, N= other given, (Not stated = blank)

Q11.

Volume [ ][ ] . [ ] correct to 1 dec.place; xxx if over 99

Cu.m or m^3 stated [ ] Y= yes, N= other given, (Not stated = blank)

Q12. [ ] Y= yes, N= other given, (Not stated = blank)

[ ][ ] L = left, M = middle, R = right – e.g. put LM if left and middle ticked

Q13.

Spoons flour [ ][ ] code as for Q1.

Spoons milk [ ][ ]

Q14. [ ] Code as for Q12.

[ ][ ]

Q15. Days [ ][ ] Code as for Q1.

Q16.

Mon. [ ] 1 = 50% or ½;
2 = $^3/_6$, $^2/_4$ or equivalent fraction;
x = all other answers
(If '$^3/_6$ = ½' or similar is written, record code 1.)

Tues. [ ]

Y/N [ ] Y = yes, N = no

Q17.

Cement [ ][ ] code as for Q1.

Sand [ ][ ]

Convert answer into hr and min
If 10 hr or more or other answer given put x xx

Q18. [ ] hr [ ][ ] min [ ] correct units given (Y = yes, N = no)

Q19. [ ] If over 9 put x

NOTES ON TRANSCRIBING YEAR-6 AND YEAR-8
MATHS TESTS

Year-6 Maths Tests

The answer books are divided into SCHOOL AREAS 1-6 and 8

The same schools were trawled for year-6 children in 3 successive years: **2002, 2003, 2004**

Year-8 Maths Tests

SCHOOL AREAS as above.

Tests were administered only to the children in year 8 in **2004/5** i.e. those who had been in year 6 in 2003.

Answer sheets

To record answers:

REMEMBER! You are recording only what the child has written. In a multi-part question leave BLANK the parts where there is no answer.

I Ds (boxes at the top of page 1) :

Areas 1-6

1. Write the school I D (handwritten on the answer book) in the right-hand set of boxes
   e.g.

1	2	4	8	0	0	1

or

3	0	2	4	0	3	1

2. Write the ALSPAC link number (9 digits printed on the white label) in the left-hand set of boxes
   e.g.

6	4	4	2	3	3	1	0	2

Area 8 only

1. There is no school code: leave right-hand boxes blank

2. Write the ALSPAC link number in the left-hand set of boxes: it will usually have 9 digits as for areas 1-6, with the following addition: the number will be preceded by either 1 or (occasionally) 2 capital letters which should be written outside the boxes and to the left

e.g.

A	6	4	4	1	0	2	3	5	6

or

AA	6	4	4	5	6	7	9	8	2

Question 2

A lot of children have answered ‘15’ or “11” (because presumably they have counted the 3 in the illustration or didn’t count Imran’s)
TRANSCRIBE the 15 or 11 as stated.

BUT if the children have written “15 or 12” or “11 or 12”
TRANSCRIBE AS 12

In this last example above it will have depended on the skill of the administrator as to whether they wrongly counted in the flags illustrated, so in this case only we are giving them the benefit of the doubt if they have stated an alternative.

Questions 5-7

For the pinball game scores: leave the ‘sign’ box blank if the child has not actually written **WON** or put a **PLUS SIGN** in the answer.

Questions 6 and 7

Blank pinball machine answers:
Many children drew correct number of pinballs in the machine but did not write the number on the line.
LEAVE THE ANSWER BLANK

Question 17

Cement and sand:
Many children put the answer the wrong way round i.e. 9 buckets of sand and 6 buckets of cement
TRANSCRIBE THE ANSWERS INTO THE BOXES THEY STATED