



Leading education
and social research
Institute of Education
University of London

UPMAP 2008 Mathematics Year 8

Date:

D	M	Y
		08

Please note the time that you started to read this questionnaire:

Dear Student,

Please read this section before you begin

In this questionnaire, we want to find out more about the reasons some students continue to study mathematics after the age of 16 and others do not. We are asking you for some personal details, such as your name because we are interested in how students' answers may change over time and we hope that you will help us again by answering similar questions in about two years' time. There are questions in here about your views on school, family and maths. There are also some mathematics-based tasks, but we would like to emphasise these have nothing to do with your school marks. We simply would like to compare your answers to these task items with your attitudes to mathematics.

We hope you will answer all the questions but if you feel uncomfortable with a particular question feel free to skip it.

All answers are confidential.

Your teachers and your school will not see your answers.

Thank you for helping us!

1. ABOUT YOU

- a) In which year do you think you will be taking your maths GCSE? Please tick.
- | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| | Year
9 | Year
10 | Year
11 | Don't
Know |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- b) How many brothers and sisters do you have?
- c) How many are younger than you? d) How many are older?
- e) What is your gender? Male Female
- f) What is your first name?
- g) What is your surname?
- h) What is your date of birth? Day Month Year
- i) What is the name of your school?
- j) Which maths set are you in?
- k) Which science class are you in?
- l) How many different maths teachers have you had since you started this school?
- m) How many different schools (primary & secondary) have you attended, including this one?

n) What are your parents'/carers' occupations?	Mother or Carer 1	Father or Carer 2
1) Professional (e.g. manager, doctor, teacher, dentist, nurse, ...)	<input type="checkbox"/>	<input type="checkbox"/>
2) Clerical and skilled non-manual (e.g. Secretary, clerk, typist, receptionist, Civil Service and Local Government Employee (Administrative, Executive and Clerical Grades), ...)	<input type="checkbox"/>	<input type="checkbox"/>
3) Senior official (e.g. inspector, senior police officer, fire service and prison officer, immigration officer, customs officer, surveyor, ...)	<input type="checkbox"/>	<input type="checkbox"/>
4) Store worker (e.g. sales representative, shop sales person, ...)	<input type="checkbox"/>	<input type="checkbox"/>
5) Skilled manual worker (someone who has specialist skills, e.g. plumber, electrician, fitter, foreman, bus driver or conductor, police constable, agricultural worker, chef/cook, ...)	<input type="checkbox"/>	<input type="checkbox"/>
6) Semi-skilled manual (a job requiring a small amount of training or experience to start, e.g. hairdresser, beautician, housekeeper, caretaker, childcare worker, ...)	<input type="checkbox"/>	<input type="checkbox"/>
7) Unskilled worker (general labourer, porter, casual worker, lorry driver, window cleaner, domestic cleaner, caterer, bar staff)	<input type="checkbox"/>	<input type="checkbox"/>
8) Homemaker (househusband or housewife)	<input type="checkbox"/>	<input type="checkbox"/>
9) Don't know	<input type="checkbox"/>	<input type="checkbox"/>
10) Unemployed	<input type="checkbox"/>	<input type="checkbox"/>

o) How many adults live in your home?

2. MORE ABOUT YOU

For each of the questions please tick **one** choice that best represents your response to each statement.

During school time, how often do you take part in the following activities **supervised** by adults?

Not at all
Less than once a month
Once or twice a month
Once a week
More than once a week

- | | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a) Sports, e.g. football, karate, local gym | <input type="checkbox"/> |
| b) Arts and music | <input type="checkbox"/> |
| c) Religious activities, e.g. attending church or temple | <input type="checkbox"/> |
| d) Youth centres/clubs | <input type="checkbox"/> |
| e) Uniformed activities, e.g. cadets, scouts, guides | <input type="checkbox"/> |

During school time, how often do you take part in the following activities that are **not** supervised by adults?

- | | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| f) Sports, e.g. football | <input type="checkbox"/> |
| g) Arts and music | <input type="checkbox"/> |
| h) Youth centres/clubs | <input type="checkbox"/> |
| i) Computers, e.g. MSN, Facebook | <input type="checkbox"/> |
| j) Activities on your own, e.g. reading, writing, pets | <input type="checkbox"/> |

How often do you take part in the following maths activities?

- | | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| k) Maths clubs | <input type="checkbox"/> |
| l) Maths Master classes | <input type="checkbox"/> |
| m) Maths competitions | <input type="checkbox"/> |
| n) Maths-related outings with your family | <input type="checkbox"/> |
| o) Maths-related outings with your school | <input type="checkbox"/> |

3. YOUR FUTURE STUDIES

YES NO

a) I am going to continue with my studies after the age of 16.

If **yes** then please go straight to question c.

If **no**, please say **why** in part b below (then go to section 4):

b) I am NOT going to continue with my studies after the age of 16 because:

c) What are the subjects that you are **most likely** to take **after** your GCSEs? Please write them down in order of your preference:

1. _____ because

2. _____ because

3. _____ because

4. _____ because

4. ABOUT STUDYING MATHEMATICS

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Slightly Agree</i>	<i>Slightly Disagree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Can't Say</i>
a) I intend to continue to study maths after my GCSEs.	<input type="checkbox"/>						
b) I think maths is a useful subject.	<input type="checkbox"/>						
c) I think maths is an interesting subject.	<input type="checkbox"/>						
d) I think maths will help me in the job I want to do in the future.	<input type="checkbox"/>						
e) My friends are going to study maths after their GCSEs.	<input type="checkbox"/>						
f) I am good at maths.	<input type="checkbox"/>						
g) My teacher thinks that I should continue with maths beyond my GCSEs.	<input type="checkbox"/>						
h) My friends think that I should continue with maths after my GCSEs	<input type="checkbox"/>						
i) I have been advised by someone else that maths is a good subject to study after my GCSEs.	<input type="checkbox"/>						

5. YOUR VIEWS ON MATHEMATICS

Please tell us what you think mathematics is about:

	Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree	Can't Say
a) People who are good at maths get well-paid jobs.	<input type="checkbox"/>						
b) Being good at maths impresses people.	<input type="checkbox"/>						
c) Maths teaches you to think logically.	<input type="checkbox"/>						
d) Maths helps you in solving everyday problems.	<input type="checkbox"/>						
e) Maths improves your social skills.	<input type="checkbox"/>						
f) To be good at maths, you need to be creative.	<input type="checkbox"/>						
g) To be good at maths, you need to work hard.	<input type="checkbox"/>						
h) Being good at maths makes you popular.	<input type="checkbox"/>						
i) Maths is interesting.	<input type="checkbox"/>						
j) Maths is important in making new discoveries.	<input type="checkbox"/>						
k) Those who are good at maths are clever.	<input type="checkbox"/>						
l) These days, everybody needs to know some maths.	<input type="checkbox"/>						
m) In maths, it is interesting to find out about the rules and patterns of numbers.	<input type="checkbox"/>						
n) There is only one right way to solve any mathematical problem.	<input type="checkbox"/>						

6. YOUR MATHEMATICS LESSONS

	Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
a) I look forward to maths classes.	<input type="checkbox"/>					
b) In my maths lessons, I apply the same mathematical idea to different situations.	<input type="checkbox"/>					
c) In my maths lessons, I have the opportunity to discuss my mathematical ideas.	<input type="checkbox"/>					
d) I do well in maths tests.	<input type="checkbox"/>					
e) I enjoy my maths lessons.	<input type="checkbox"/>					
f) I can see the relevance of maths lessons.	<input type="checkbox"/>					
g) I find it difficult to apply most maths concepts to everyday problems.	<input type="checkbox"/>					
h) When I am doing maths, I always know what I am doing.	<input type="checkbox"/>					
i) When I am doing maths, I am learning new skills.	<input type="checkbox"/>					
j) When I am doing maths, I am bored.	<input type="checkbox"/>					
k) When I am doing maths, I pay attention.	<input type="checkbox"/>					
l) When I am doing maths, I get upset.	<input type="checkbox"/>					
m) When I am doing maths, I daydream.	<input type="checkbox"/>					
n) I like my maths teacher.	<input type="checkbox"/>					

	Near top	A bit above average	Average	A bit below average	Near bottom
x) Thinking about your maths lessons, how do you feel you compare with the others in your group?	<input type="checkbox"/>				

7. YOUR MATHEMATICS TEACHER

	Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree	Can't Say
a) My maths teacher has high expectations of what the students can learn.	<input type="checkbox"/>						
b) My maths teacher believes that all students can learn maths.	<input type="checkbox"/>						
c) My maths teacher wants us to really understand maths.	<input type="checkbox"/>						
d) My maths teacher sets us homework.	<input type="checkbox"/>						
e) My maths teacher believes that mistakes are OK as long as we are learning.	<input type="checkbox"/>						
f) My maths teacher is interested in me as a person.	<input type="checkbox"/>						
g) My maths teacher seems to like all the students.	<input type="checkbox"/>						
h) My maths teacher is interested in what the students think.	<input type="checkbox"/>						
i) My maths teacher only cares about students who get good marks in maths.	<input type="checkbox"/>						
j) My maths teacher lets us get away with not doing our homework.	<input type="checkbox"/>						
k) My maths teacher treats all students the same regardless of their maths ability.	<input type="checkbox"/>						
l) My maths teacher is good at explaining maths.	<input type="checkbox"/>						
m) My maths teacher marks and returns homework quickly.	<input type="checkbox"/>						

8. HELP WITH MATHEMATICS

a) I need help with maths	<input type="checkbox"/>					
b) I do extra maths at home (i.e. work not set by teachers).	<input type="checkbox"/>					
c) I think ICT is very useful in helping me learn maths.	<input type="checkbox"/>					
d) I use maths programmes on my computer to help me with my maths, e.g. podcasts, BBC Bite size, games etc.	<input type="checkbox"/>					
e) I use online groups to help me learn maths.	<input type="checkbox"/>					
f) Do any of these people ever help you with your maths work:						
i) Someone in my family	<input type="checkbox"/>					
ii) My friend(s)	<input type="checkbox"/>					
iii) A private tutor	<input type="checkbox"/>					
iv) My maths teacher	<input type="checkbox"/>					
v) Someone else not listed above	<input type="checkbox"/>					

9. MORE ABOUT YOU

	Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree	Can't Say
a) I enjoy strategy games (e.g. Chess, battleships, Sudoku)	<input type="checkbox"/>						
b) I like to read (e.g. interesting books or magazines).	<input type="checkbox"/>						
c) I am fascinated by how machines work.	<input type="checkbox"/>						
d) I find it difficult to read and understand maps.	<input type="checkbox"/>						
e) I have <i>organised</i> collections (e.g. music files, photos, Pokemon cards).	<input type="checkbox"/>						
f) I think memorising dates is important in learning about history.	<input type="checkbox"/>						
g) What I like about learning a foreign language is the way I can learn the grammar by following a pattern.	<input type="checkbox"/>						
h) I use my mobile to access the internet for information and/or email.	<input type="checkbox"/>						
i) I like to interact with people online.	<input type="checkbox"/>						
j) I upload digital pictures and videos on to internet sites such as Facebook, Flickr, Youtube or Bebo.	<input type="checkbox"/>						
k) I like to find the reasons for things.	<input type="checkbox"/>						
l) I like to solve problems.	<input type="checkbox"/>						

10. YOUR SCHOOL

a) It is important for me to know how well I am doing at school.	<input type="checkbox"/>						
b) I prefer school tasks that really make me think.	<input type="checkbox"/>						
c) I like work that I learn from, even if I make a lot of mistakes.	<input type="checkbox"/>						
d) This school will help me be successful.	<input type="checkbox"/>						
e) Adults in this school seem to listen to students' concerns.	<input type="checkbox"/>						
f) I can be myself at this school.	<input type="checkbox"/>						
g) I feel like I belong at this school.	<input type="checkbox"/>						
h) I am comfortable talking to teachers about problems in this school.	<input type="checkbox"/>						
i) Students of all backgrounds are respected at my school.	<input type="checkbox"/>						

11. YOUR FAMILY'S VIEWS

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Slightly Agree</i>	<i>Slightly Disagree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Can't Say</i>
a) My parents/carers understand me.	<input type="checkbox"/>						
b) I get along well with my parents/carers.	<input type="checkbox"/>						
c) I prefer not to talk to my parents/carers about issues that concern me.	<input type="checkbox"/>						
d) My parents/carers are disappointed with what I do.	<input type="checkbox"/>						
e) Someone in my family:							
i) wants me to work hard and try to the best of my ability.	<input type="checkbox"/>						
ii) wants me to be successful in the subjects that I am interested in.	<input type="checkbox"/>						
iii) wants me to do well in order to a good job.	<input type="checkbox"/>						
iv) wants me to be successful at school in maths.	<input type="checkbox"/>						
v) wants me to be the best in my class in maths.	<input type="checkbox"/>						
vi) wants me to talk to them about my maths work.	<input type="checkbox"/>						
vii) thinks that you have to be born with maths talent to do well at it.	<input type="checkbox"/>						
viii) thinks that I should continue with maths after my GCSEs.	<input type="checkbox"/>						
ix) thinks that anyone can do maths if they try hard enough.	<input type="checkbox"/>						
f) If my general standard of maths work slipped, my family would:							
i) take away privileges or ground me.	<input type="checkbox"/>						
ii) threaten to punish me.	<input type="checkbox"/>						

12. OTHER PEOPLE AND YOU

a) I feel comfortable around people.	<input type="checkbox"/>					
b) I don't like to draw attention to myself.	<input type="checkbox"/>					
c) I start conversations easily.	<input type="checkbox"/>					
d) I am quiet around strangers.	<input type="checkbox"/>					
e) I don't mind being the centre of attention.	<input type="checkbox"/>					
f) I like to keep in the background.	<input type="checkbox"/>					
g) I talk to a lot of different people at parties.	<input type="checkbox"/>					
h) I like to see the whole class do well on a test.	<input type="checkbox"/>					

	Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
i) I try not to speak unkindly of others.	<input type="checkbox"/>					
j) Teamwork is really more important than who wins.	<input type="checkbox"/>					
k) I don't trust very many people.	<input type="checkbox"/>					
l) I want to be successful, even if it's at the expense of others.	<input type="checkbox"/>					
m) A group slows me down.	<input type="checkbox"/>					
n) I like to help others.	<input type="checkbox"/>					
o) It is important to treat others with kindness.	<input type="checkbox"/>					
p) I do not give anyone a second chance.	<input type="checkbox"/>					

13. YOUR EVERYDAY LIFE

a) I like to think up new ideas.	<input type="checkbox"/>					
b) I am interested in how others see the world.	<input type="checkbox"/>					
c) How many friends I have depends on how nice a person I am.	<input type="checkbox"/>					
d) When I make plans, I am almost certain to make them work.	<input type="checkbox"/>					
e) When I get what I want, it's usually because I worked hard for it.	<input type="checkbox"/>					
f) I can pretty much determine what will happen in my life.	<input type="checkbox"/>					
g) I am sure of myself.	<input type="checkbox"/>					
h) I am often depressed.	<input type="checkbox"/>					
i) I get upset very easily.	<input type="checkbox"/>					
j) I am a calm person.	<input type="checkbox"/>					
k) I am usually relaxed.	<input type="checkbox"/>					
l) I worry about a lot of things.	<input type="checkbox"/>					
m) I am a nervous person.	<input type="checkbox"/>					

14. MATHEMATICS TASKS

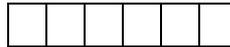
These tasks have nothing to do with your school marks and your answers will **not** be seen by your teachers or anyone else at your school. We simply would like to compare your answers to these task items with your attitudes to mathematics.

T1. TILES

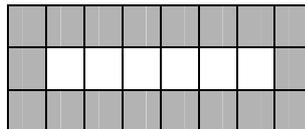
Raj has some white square tiles and some grey square tiles.

They are all the same size.

She makes a row of six white tiles.



She surrounds the white tiles with a single layer of grey tiles.



Then she makes a row of twelve white tiles.



And then she surrounds these white tiles with grey tiles.



a) How many grey tiles does she use to surround a row of 12 white tiles?

Show your working here:

b) How many grey tiles does she need to surround a row of 60 white tiles?

Show your working here:

c) How confident are you that your answer to **part (b)** is correct?

Very confident Fairly confident Not confident Just guessing

d) Write a rule for the number of grey tiles needed to surround a row of n white tiles.
You can write a sentence or use algebra.

d) How confident are you that your answer to **part (d)** is correct?

Very confident Fairly confident Not confident Just guessing

T2. How much do you agree with the following statements?

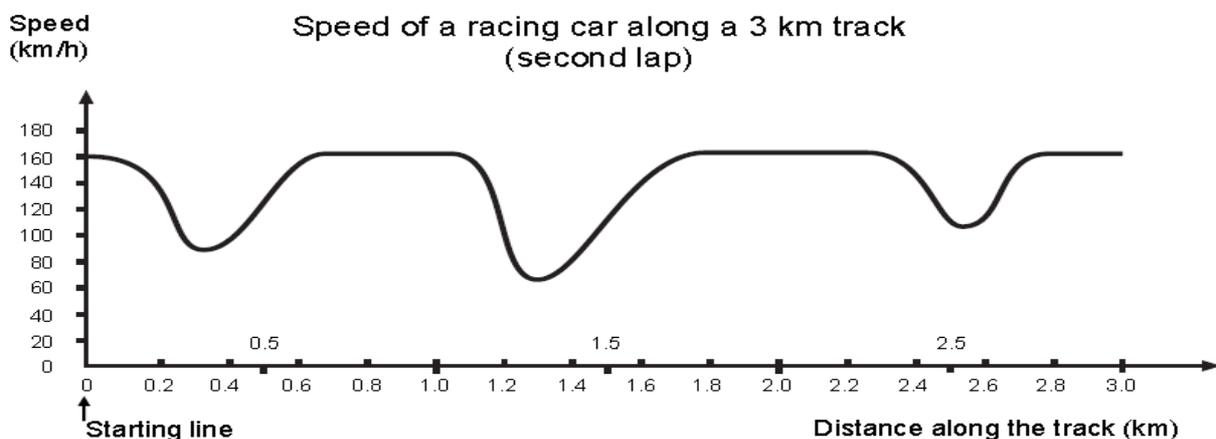
I find doing 'find the pattern' problems:

- a) Enjoyable
- b) Easy
- c) Interesting

	Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
a) Enjoyable	<input type="checkbox"/>					
b) Easy	<input type="checkbox"/>					
c) Interesting	<input type="checkbox"/>					

R1. RACING CAR

This graph shows how the speed of a racing car varies along a flat 3 kilometre track during its second lap.



a) What is the approximate distance from the starting time to the beginning of the longest straight section of the track?

- 0.5 km 1.5 km 2.3 km 2.6 km

b) Where was the lowest speed recorded during the second lap?

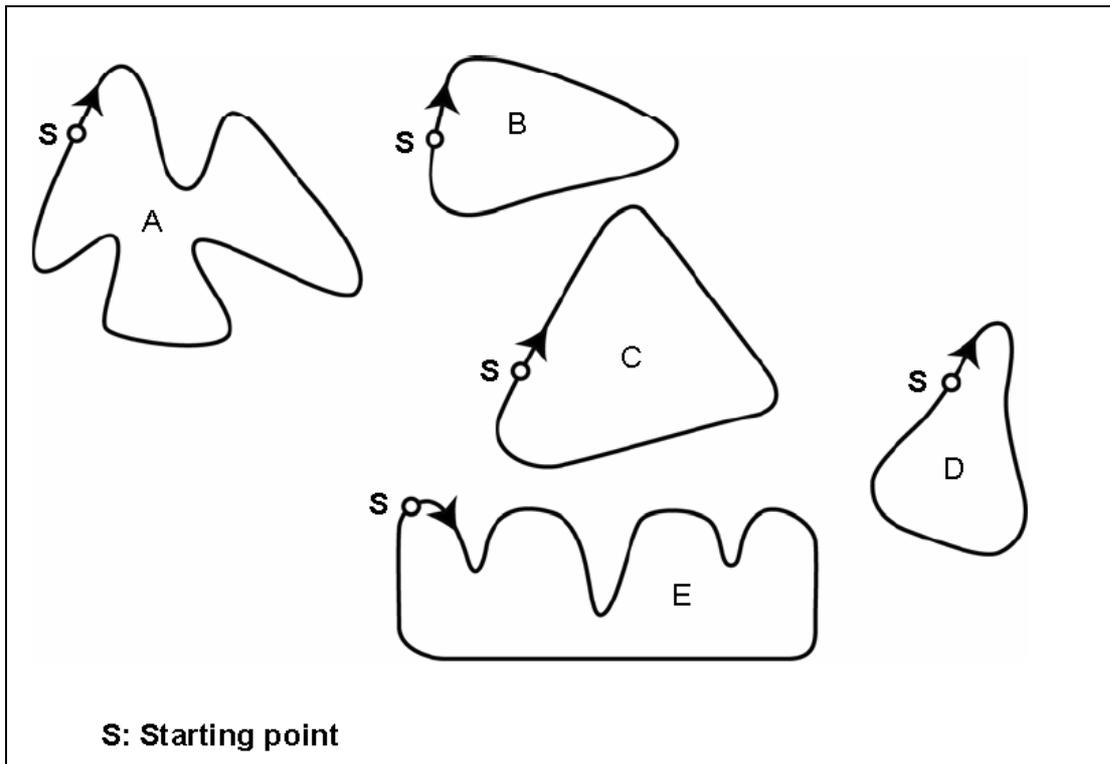
- at the starting line at about 0.8 km
- at about 1.3 km halfway round the track

c) What can you say about the speed of the car between the 2.6 km and the 2.8 km marks? The speed of the car:

-
-

d) Along which one of these tracks was the car driven to produce the speed graph shown earlier?

- A** **B** **C** **D** **E**



e) How confident are you that your answers to the Racing Car questions are correct?

- Very confident Fairly confident Not confident Just guessing

R2. How much do you agree with the following statements?

I find doing 'speed/time' problems:

- a) Enjoyable
- b) Easy
- c) Interesting

- | <i>Strongly Agree</i> | <i>Agree</i> | <i>Slightly Agree</i> | <i>Slightly Disagree</i> | <i>Disagree</i> | <i>Strongly Disagree</i> |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

Please note the time that you finished this questionnaire:

Thank You