UNSW THE UNIVERSITY OF NEW SOUTH WALES SYDNEY • AUSTRALIA

EDUCATIONAL ASSESSMENT AUSTRALIA

PAPER C

ICAS

INTERNATIONAL COMPETITIONS AND ASSESSMENTS FOR SCHOOLS

MATHEMATICS 2007

DO NOT OPEN THIS BOOKLET UNTIL INSTRUCTED.

40 QUESTIONS
TIME ALLOWED: 45 MINUTES

STUDENT'S NAME:

Read the instructions on the **ANSWER SHEET** and fill in your **NAME**, **SCHOOL** and **OTHER INFORMATION**.
Use a 2B or B pencil.
Do **NOT** use a pen.
Rub out any mistakes completely.

You **MUST** record your answers on the **ANSWER SHEET**.

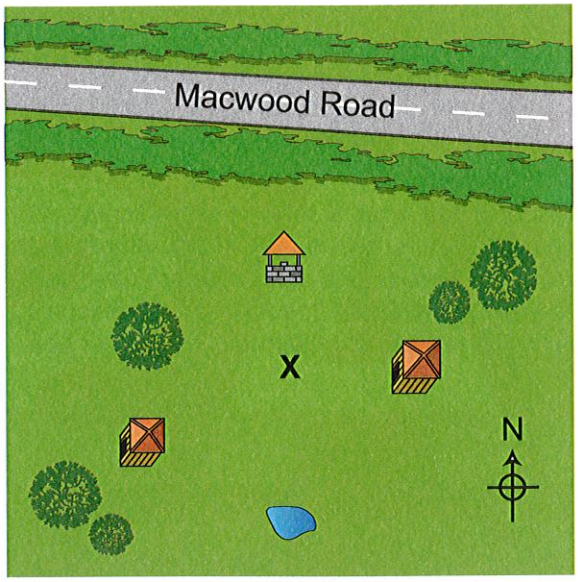
Mark only **ONE** answer for each question.
Your score will be the number of correct answers.
Marks are **NOT** deducted for incorrect answers.

There are **40 MULTIPLE-CHOICE QUESTIONS** (1–40).
Use the information provided to choose the **BEST** answer from the four possible options.
On your **ANSWER SHEET** fill in the oval that matches your answer.

You may use a ruler and spare paper.
You are **NOT** allowed to use a calculator.

PLEASE SEE BACK COVER FOR A LIST OF THE YEAR LEVELS THAT SHOULD SIT THIS PAPER

1. Ms Green bought the land shown in this map.



Key:

Tree: Well:

Shed: Pond:

When Ms Green stands at the point marked **X** and looks directly south, what will she see?

(A) a tree
(B) the well
(C) a shed
(D) the pond

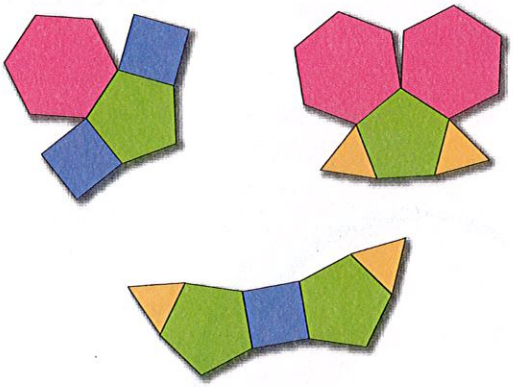
2. This ferry sails 6 times a day.

How many times does the ferry sail in 5 days?

(A) 5 (B) 6

(C) 11 (D) 30

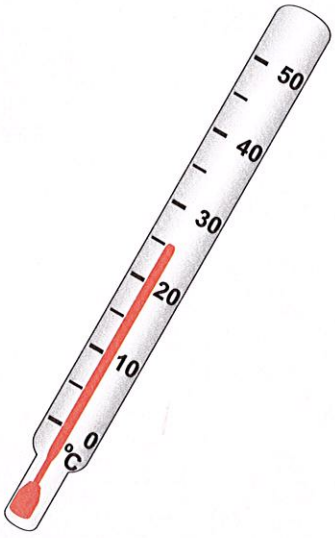
3. These three shapes were made using tiles.



Which tile was used in all three shapes?

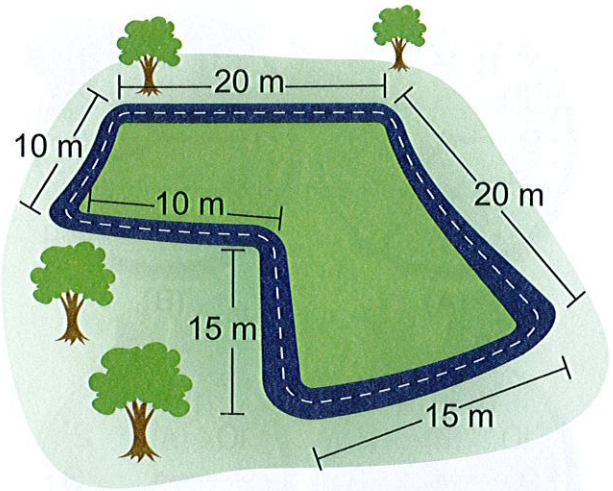
(A) (B) (C) (D)

4. What is the temperature shown on this thermometer?



(A) 20 °C
(B) 21 °C
(C) 25 °C
(D) 29 °C

5. Ella walked once around this track.



How far did Ella walk?

(A) 55 m
(B) 65 m
(C) 80 m
(D) 90 m

6. 2, 9, ?, 23, 30, ?, 44, 51, 58

Which two numbers are missing from the number pattern?

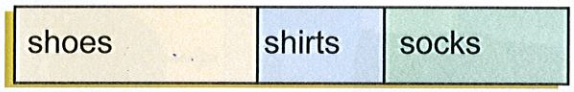
(A) 16 and 36
(B) 16 and 37
(C) 17 and 36
(D) 17 and 37

7. Which of these numbers is closest to 350?

(A) 329
(B) 337
(C) 362
(D) 370

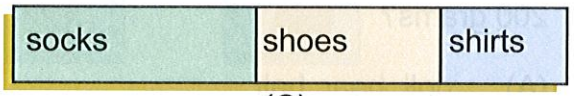
8. Karl bought some shoes, socks and shirts.

Which graph shows that Karl spent the most money on shoes?

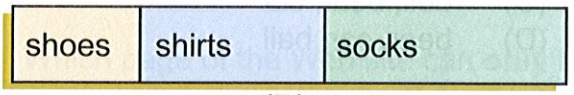


(A)

(B)



(C)



(D)

9. 447 + 154 = ?

(A) 501
(B) 591
(C) 600
(D) 601

10. Brian is posting three of these four toys in a parcel.

doll = 85 g

bear = 99 g

car = 46 g

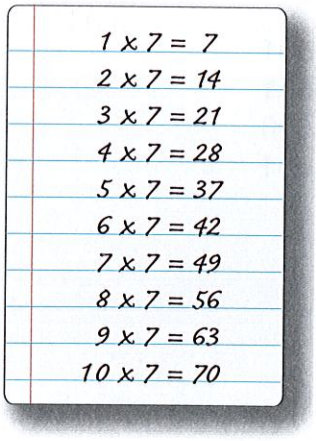
ball = 65 g

The parcel has to be less than 200 grams.

Which three toys together weigh closest to 200 grams?

(A) doll, bear, ball
(B) doll, car, ball
(C) doll, bear, car
(D) bear, car, ball

11. Dan wrote down his seven times table but he made one mistake.

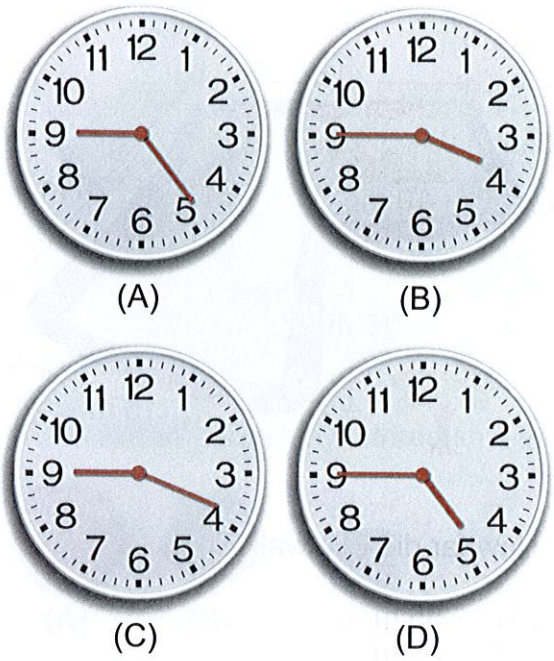


Where did he make his mistake?

(A) 5×7 (B) 6×7

(C) 7×7 (D) 8×7

12. Which clock shows 4:45?



(A) (B)

(C) (D)

13. Ali is using a number code to represent letters. Each letter is shown by a number.

This is how Ali would code the word "maths":

m	a	t	h	s
13	01	20	08	19

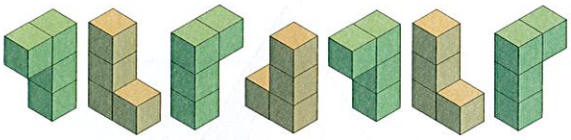
How should Ali code the word "mash"?

(A) 13-01-19-20
(B) 13-01-19-08
(C) 13-01-08-19
(D) 13-01-20-19

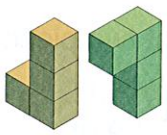
14. How many days are there in six years?

(A) about 300
(B) about 600
(C) about 1000
(D) about 2000

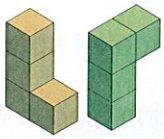
15. Here are the first seven shapes in a pattern.



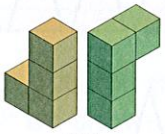
What are the next two shapes in the pattern?



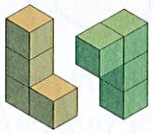
(A)



(B)



(C)

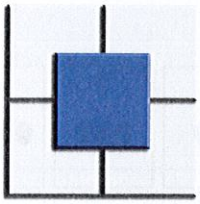


(D)

16. $3 \times \boxed{?} + 6 = 21$

(A) 1
(B) 3
(C) 5
(D) 9

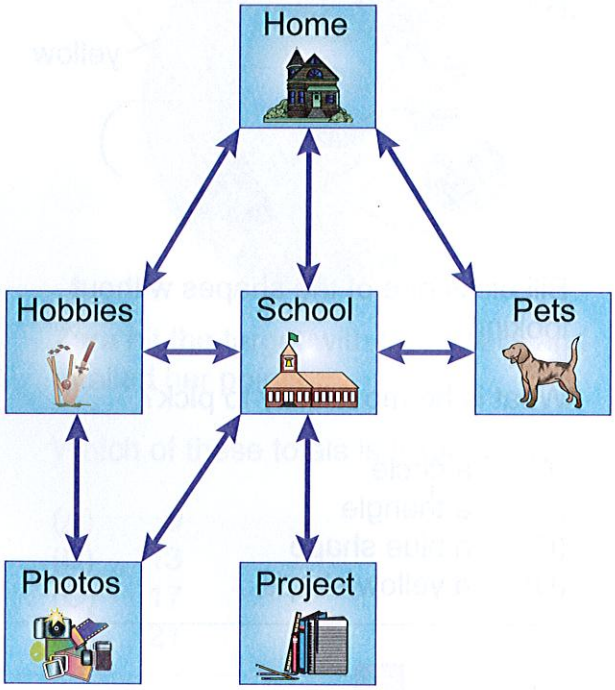
17. A dark square has been placed on four white squares as shown. The sides of these squares are 4 cm long.



What is the area of the white region surrounding the dark square?

(A) 16 cm^2
(B) 48 cm^2
(C) 56 cm^2
(D) 64 cm^2

18. Emily made a Web site about herself and posted it on the Internet. This diagram shows how the pages of the Web site are linked.

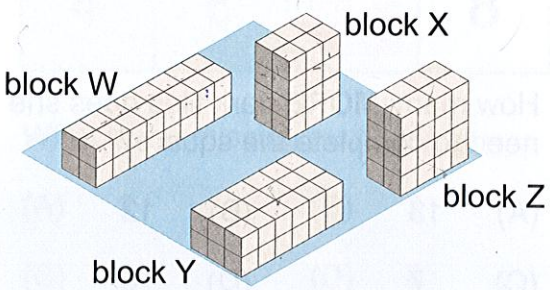


To view Emily's Web site you must start at the Home page.

Which page of the Web site can **only** be viewed by first viewing the School page?

(A) Hobbies
(B) Pets
(C) Photos
(D) Project

19. The picture shows four blocks made out of cubes. Each block is a rectangular prism.

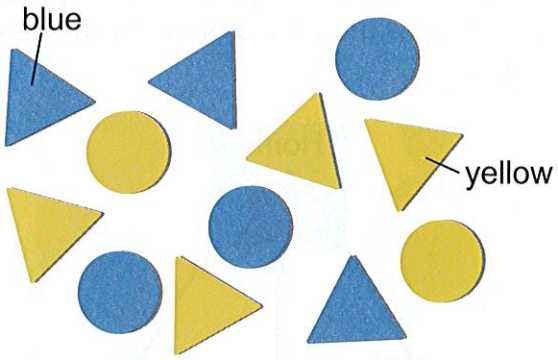


Which two blocks have the same volume?

(A) X and Z (B) W and Y

(C) X and Y (D) W and Z

20. The picture shows some shapes.



Bill picks one of the shapes without looking.

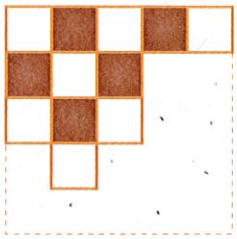
What is he most likely to pick?

(A) a circle
(B) a triangle
(C) a blue shape
(D) a yellow shape

21. $8012 \div 4 =$?

(A) 23
(B) 203
(C) 2003
(D) 2030

22. Myra started to make a square using a pattern of dark and white tiles.

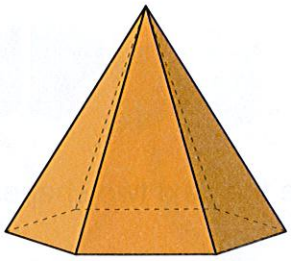


How many **MORE** dark tiles does she need to complete the square?

(A) 13 (B) 12

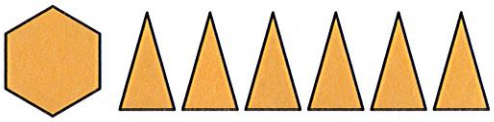
(C) 7 (D) 6

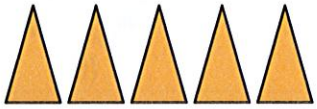
23. Sunil had this hollow shape.

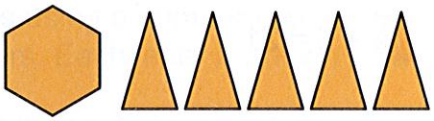


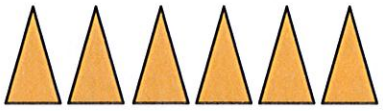
He took it apart and lost two pieces.

Which pieces were left?

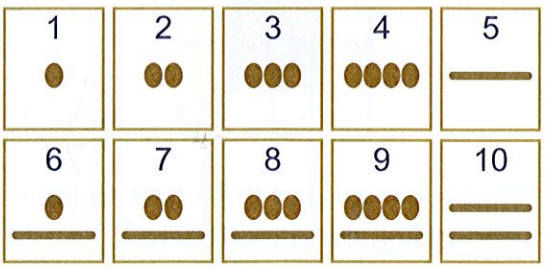
(A) 

(B) 

(C) 

(D) 

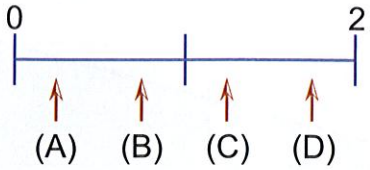
24. Linda was studying the ancient number system of the Mayan people. She made this table.



What is the Mayan symbol for 16?

(A) (B) (C) (D)

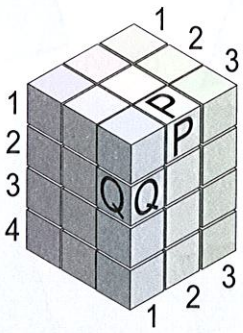
25. Which arrow points to $1\frac{3}{4}$?



26. What is the difference between 33.3 and 3.33?

(A) 29.97
(B) 30.97
(C) 30.00
(D) 30.03

27. The position of every cube in this stack can be shown using three numbers.



Cube Q is at position 1-2-3.

What is the position of cube P?

(A) 1-3-2
(B) 2-1-3
(C) 2-3-1
(D) 3-1-2

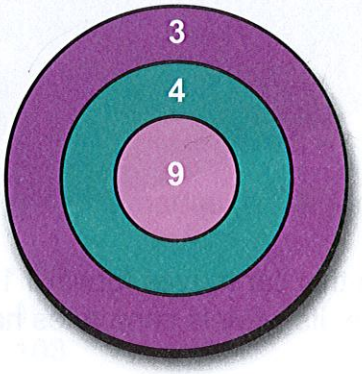
28. The factors of 6 are 1, 6, 2 and 3.

Which of these numbers has the most factors?

(A) 12 (B) 15

(C) 16 (D) 19

29. Each ball thrown at this target scores points according to where it hits.

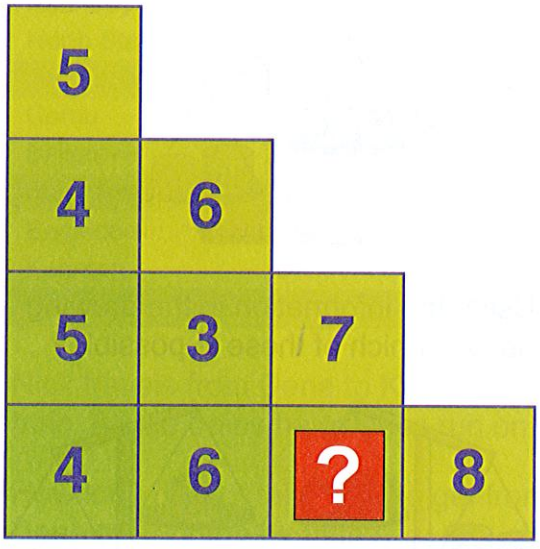


Zara hit the target with three balls and totalled her points.

Which of these totals is **impossible**?

(A) 9
(B) 13
(C) 17
(D) 21

30. The numbers in this pattern follow a rule.



What is the missing number?

(A) 2 (B) 3

(C) 6 (D) 8

31.

When this car moves forward 1 metre, each of its wheels completes half a turn.

About how many full turns would each wheel complete if the car travelled 10 kilometres?

(A) 20 000
(B) 5 000
(C) 2 000
(D) 500

32. Luke has a balance scale, a pumpkin, a 5 kg mass, a 10 kg mass and a 15 kg mass.

Using the information in the drawing above, which of these is possible?

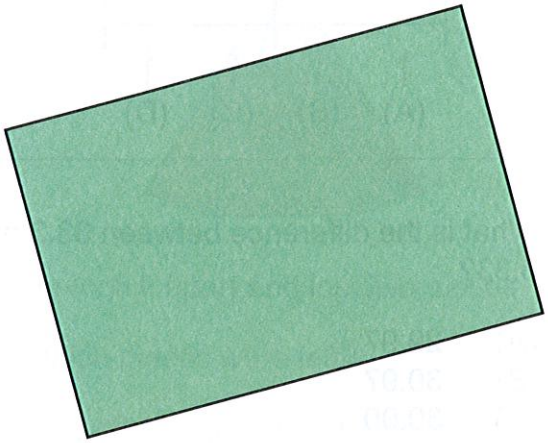
(A)

(B)

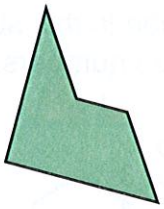
(C)

(D)

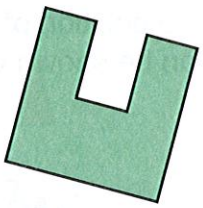
33. Yasmeen wants to cut this rectangle into identical pieces, with no bits left over.



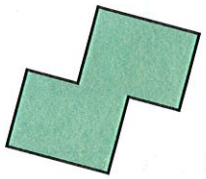
Which shape can the pieces be?



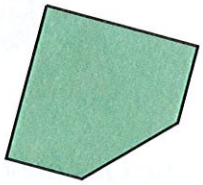
(A)



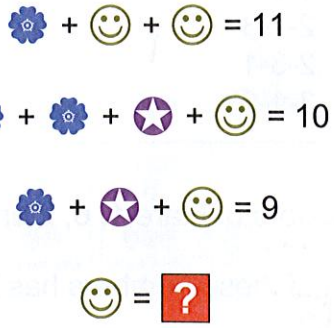
(B)



(C)



(D)

34. 

(A) 1 (B) 3
(C) 4 (D) 5

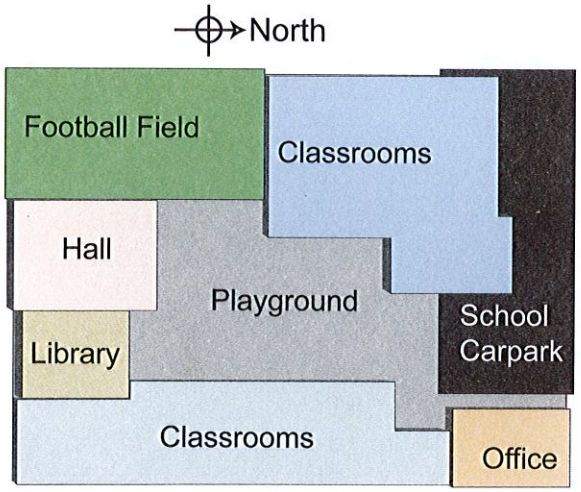
35. The table shows the "digit difference" of some two-digit numbers.

Number	Working	Digit difference
17	7 – 1 = 6	6
51	5 – 1 = 4	4
94	9 – 4 = 5	5
28	8 – 2 = 6	6
70	7 – 0 = 7	7

How many two-digit numbers between 10 and 100 have a digit difference of 3?

(A) 9
(B) 10
(C) 13
(D) 18

36. Here is a map of a school.



Mike walks from the office to the football field.

In what direction does Mike walk?

(A) north-west
(B) south-west
(C) north-east
(D) south-east

37. Maria was training for a race.

She ran 3 km each day except on Sundays when she ran 5 km.

She ran every day for 31 days, and started her first run on a Friday.

How many kilometres did she run in total?

(A) 90
(B) 101
(C) 103
(D) 155

38. Here is the train timetable for the Lorikeet City Line.

Lorikeet City Line			
Weekdays			
	am	am	am
Waratah	6:49	7:43	---
Dene	---	7:47	---
Sea Cove	7:02	---	---
Lilyton	7:11	---	---
Kennedy	7:13	---	---
North Station	7:19	8:09	---
Janis Town	7:21	8:11	8:22
Cornu	---	8:14	---
Bellgrove	7:27	8:21	---
Natureville	7:30	---	8:29
Eagledon	---	---	8:31
Karinton	---	---	8:33
Megdale	7:34	8:28	8:35

Nick travels from Dene to Karinton by train. All the trains he catches run on time.

How long does it take Nick to get from Dene to Karinton by train?

(A) 11 min
(B) 12 min
(C) 41 min
(D) 46 min

39. Twenty people were surveyed at a sports centre.

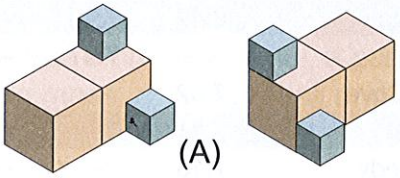
Five people played both squash and tennis. Eight people did not play squash. Eleven people did not play tennis.

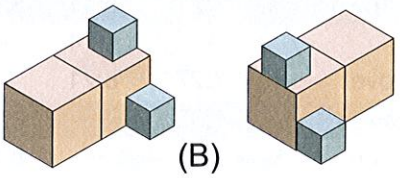
How many people did not play either squash or tennis?

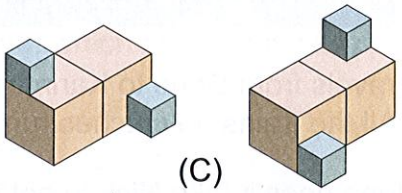
(A) 1
(B) 4
(C) 15
(D) 19

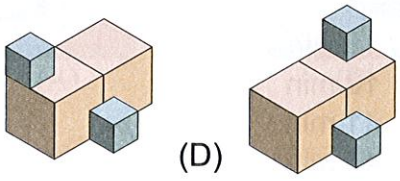
40. Clara used two small cubes and two large cubes to make some solids.

In which pair of solids can one solid be made by rotating the other solid?


(A)


(B)


(C)


(D)

UNSW EDUCATIONAL ASSESSMENT AUSTRALIA
THE UNIVERSITY OF NEW SOUTH WALES

2007 Answer Keys

International Competitions & Assessments for Schools

Mathematics

Question Number	Paper A	Paper B	Paper C	Paper D	Paper E	Paper F	Papers G & H	Papers I & J
1	D	D	D	A	A	B	A	A
2	C	B	D	C	D	D	C	B
3	A	D	B	D	C	A	B	B
4	C	B	C	C	D	C	B	A
5	A	C	D	D	B	A	A	B
6	B	C	B	B	C	C	C	D
7	C	D	C	A	A	D	C	D
8	C	A	A	B	B	D	D	C
9	D	B	D	B	D	C	A	B
10	B	A	B	A	A	A	A	C
11	C	C	A	C	B	B	D	C
12	D	B	D	C	D	D	A	D
13	C	C	B	A	D	B	D	B
14	D	B	D	B	C	C	A	B
15	A	A	A	D	D	B	B	C
16	A	B	C	A	C	C	B	A
17	D	B	B	B	C	C	C	B
18	A	D	D	D	D	D	B	D
19	D	D	D	D	D	C	C	C
20	A	B	B	C	A	D	D	A
21	D	A	C	A	D	C	A	B
22	B	C	C	B	B	A	D	B
23	B	B	B	C	B	B	A	D
24	C	D	D	A	C	B	C	D
25	A	D	D	D	B	D	D	B
26	A	A	A	A	C	D	B	D
27	D	D	B	B	D	B	A	C
28	B	A	A	C	D	A	C	A
29	A	B	B	D*	C	C	B	C
30	A	A	A	D	A	D	D	A
31	C	C	B	C	C	D	A	B
32	C	B	C	A	A	A	D	C
33	A	C	A	B	B	B	B	D
34	D	D	D	A	A	B	A	B
35	B	A	C	A	B	D	D	C
36	C	A	B	394	150	260	729	45
37	B	B	C	676	36	199	162	63
38	B	C	D	380	640	20	484	170
39	C	D	B	43	206	115	20	209
40	A	A	A	206	11	873	170	25

* Please note: the key for Paper D Q29 is 'D' but there is an error in the last sentence of the question which should read "How much older than Chris is Alice"

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