YEAR

5

37

PRIMARY SCHOOLS MATHEMATICS COMPETITION

2002

40 QUESTIONS
TIME ALLOWED: 45 MINUTES

STUDENT'S NAME: _____

DO NOT OPEN THIS BOOKLET UNTIL INSTRUCTED.

Read the instructions on the **ANSWER SHEET** and fill in your **NAME, SCHOOL YEAR, GENDER** and the **LANGUAGE YOU FIRST SPOKE.**

Use a 2B or B pencil.
Do **NOT** use a pen.
Rub out any mistakes completely.

Your answers **MUST** be recorded on the **ANSWER SHEET.**

Use the information provided to choose the **BEST** answer from the possible options.

On your **ANSWER SHEET** blacken the oval that matches the answer you choose.
Mark only **ONE** answer for each question.

Your score will be the number of correct answers.
Marks are **NOT** deducted for incorrect answers.

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

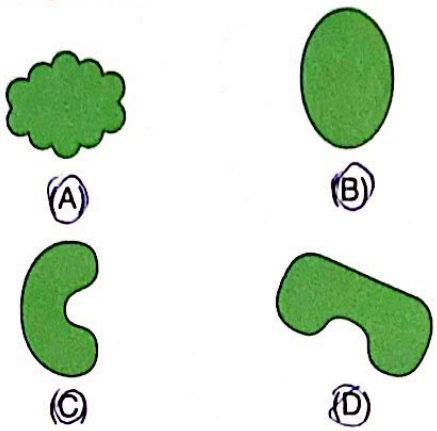
A collaborative project with
Southern Cross University
and
Southern Cross Mathematical Association

THE UNIVERSITY OF NEW SOUTH WALES

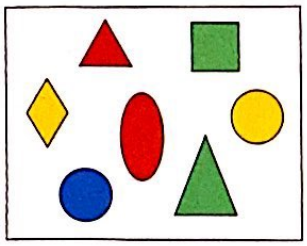
ETC

EDUCATIONAL TESTING CENTRE

1. Which one of these shapes has a straight edge?



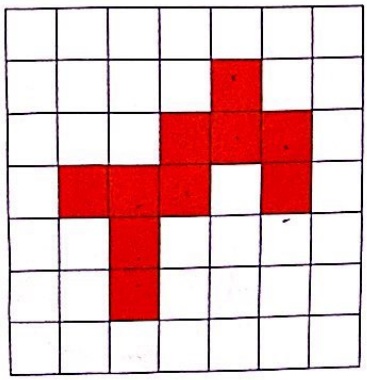
2. Here is a group of shapes.



How many circles are in this group?

(A) 2
(B) 3
(C) 4
(D) 5

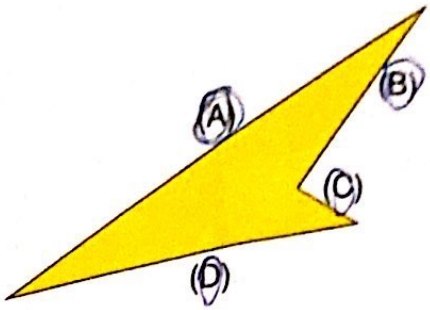
3.



How many squares in total are in the shaded area?

(A) 8
(B) 9
(C) 10
(D) 11

4. Which side of this shape is the longest?

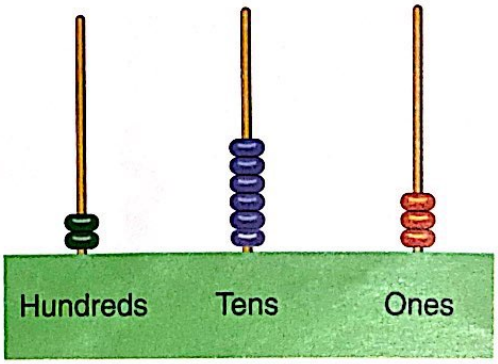


5. 17 is less than ?

Which one of the numbers below would make this sentence true?

(A) 5
(B) 10
(C) 16
(D) 20

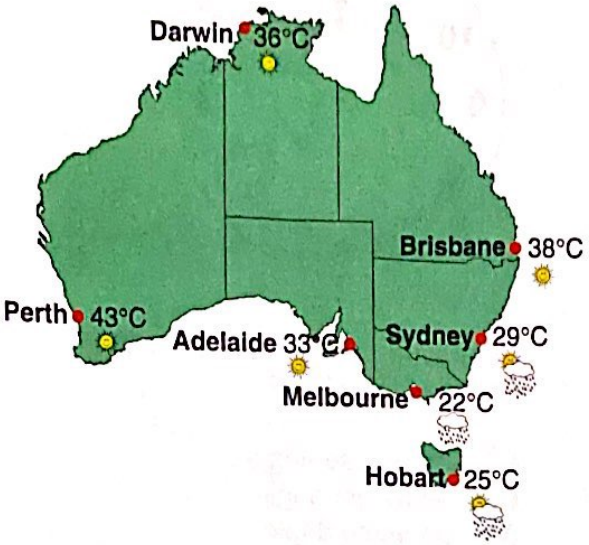
6. This is a bead counter.



What number is shown on the bead counter?

(A) 236
(B) 263
(C) 362
(D) 632

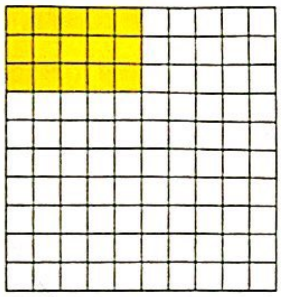
7. This is a weather map of Australia.



Which city had the hottest day?

(A) Darwin
(B) Brisbane
(C) Melbourne
(D) Perth

8. This grid has 100 small squares.



What fraction of the grid is **shaded**?

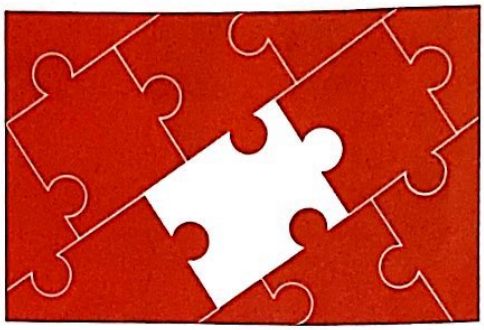
(A) $\frac{12}{100}$
(B) $\frac{15}{100}$
(C) $\frac{25}{100}$
(D) $\frac{50}{100}$

9. The ice-cream below costs $2.

How many of these ice-creams can Luke buy with $5?

(A) 2
(B) 3
(C) 4
(D) 5

10. Andrew's jigsaw puzzle is not finished.



Which piece will complete the puzzle?


(A)


(B)


(C)


(D)

11.
$$\begin{array}{r} 334 \\ +\ 268 \\ \hline \boxed{?} \\ \hline \end{array}$$

(A) 602
(B) 592
(C) 534
(D) 134

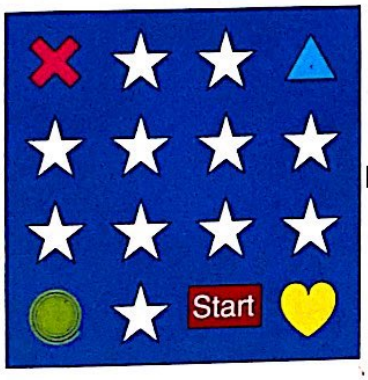
12. $37 \times 2 =$?

(A) 57
(B) 64
(C) 67
(D) 74

13. What is half of 4×12?

(A) 48
(B) 24
(C) 12
(D) 2

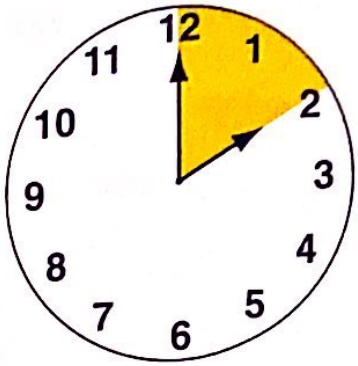
14. Danni is playing a game.



Danni begins on the Start box and moves as far to the left as she can. She then moves to the diagonally opposite corner.

Which shape will she finish on?

15.



What type of angle is formed by the hands of this clock?

(A) an obtuse angle
(B) a straight angle
(C) an acute angle
(D) a right angle

16. How do you write *eighty-three dollars and fifty cents* using numerals?

(A) $80·35
(B) $83·50
(C) $830·50
(D) $835·00

17. $\$1{\cdot}20 - 85c =$?

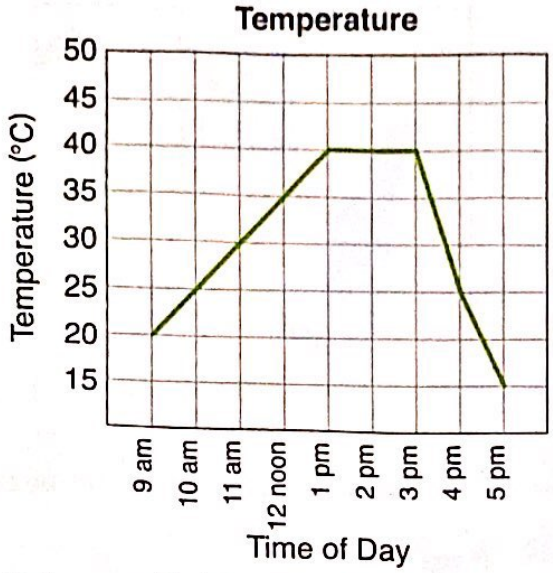
(A) 65c
(B) 45c
(C) 35c
(D) 25c

18. Peter made up a rule to multiply by 3. He said, *"Double the number and then add the number on".*
He wanted to multiply 8 by 3.

Which one of the following shows Peter's rule?

(A) 16 + 8
(B) 11 + 8
(C) 18 + 6
(D) 16 + 3

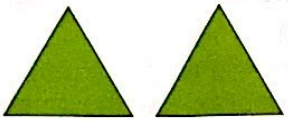
19. This graph shows the temperature from 9 am to 5 pm on a hot day.



Between which times did the temperature **fall** the most?

(A) 11 am and 12 noon
(B) 1 pm and 2 pm
(C) 3 pm and 4 pm
(D) 4 pm and 5 pm

20. Here are two identical equilateral triangles.



Which one of the following shapes can be made when these two triangles are joined together, side by side, without overlapping?

(A) trapezium
(B) rhombus
(C) triangle
(D) square

21. Michael is taller than Amy. Rodney is shorter than Debbie but taller than Michael.

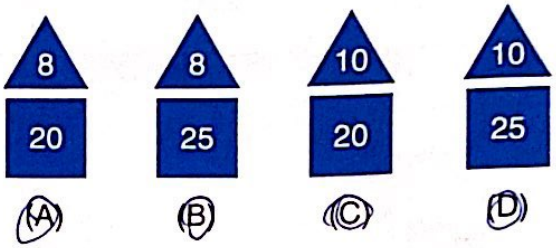
Who is the tallest?

(A) Michael
(B) Amy
(C) Rodney
(D) Debbie

22. Here is a number pattern.

is in the third place in this pattern.

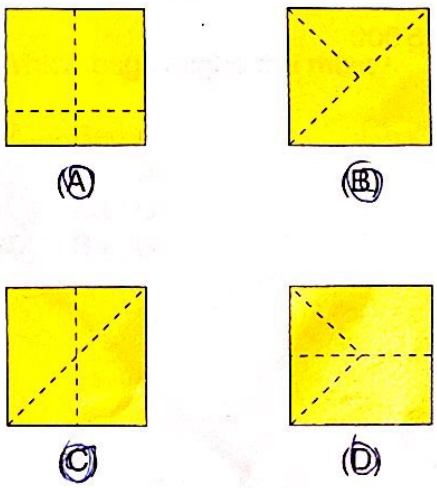
Which one of the following belongs in the **fifth** place of this pattern?



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

23. Jason folded a square piece of paper in half. He opened the paper out and then folded it in half again, but this time in a different way.

What did the paper look like when he opened it out again?



(A) (B)

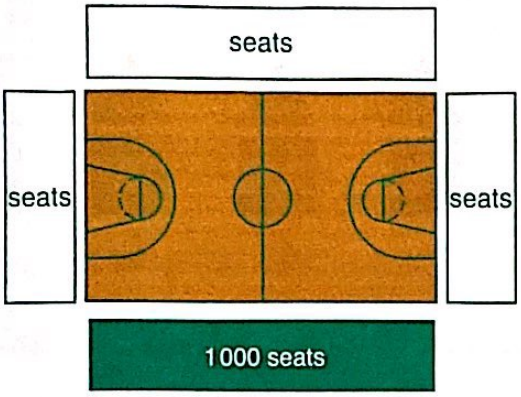
(C) (D)

24. These numbers are multiples of eight.
8, 16, 24, 32, ..., 136, ...

Which one of the following numbers is also a multiple of eight?

(A) 170
(B) 164
(C) 152
(D) 148

25. This basketball court has seats around it.

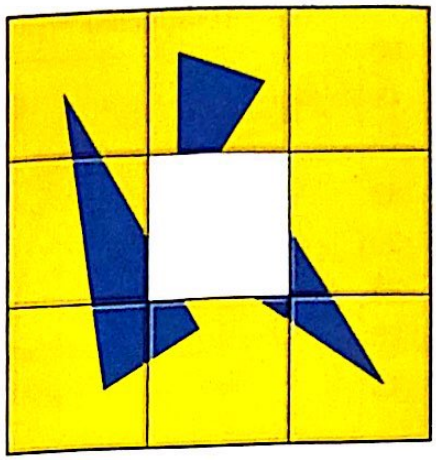


The shaded area has 1 000 seats.

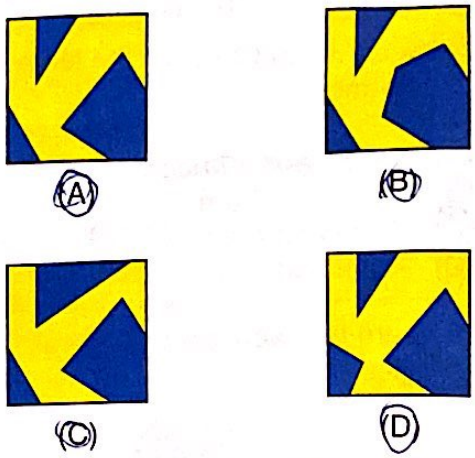
What is the approximate number of seats around this basketball court altogether?

(A) 2 000
(B) 3 000
(C) 4 000
(D) 5 000

26. When the last piece is put into this puzzle it shows 3 triangles.

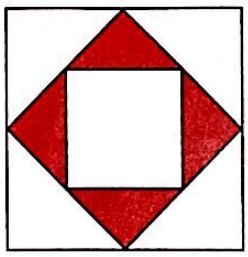


Which piece is missing from this puzzle?



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

27. Three squares are shown in the diagram below.



What fraction of the largest square is shaded?

(A) $\frac{1}{2}$
(B) $\frac{1}{4}$
(C) $\frac{1}{6}$
(D) $\frac{1}{8}$

28. The objects below have the following masses.

= 200 grams

= 250 grams

= 500 grams

Which combination of objects below makes up 2·050 kilograms?

(A) 

(B) 

(C) 

(D) 

29. Here are three number patterns.

3, 6, 9, 12, . . .

5, 9, 13, 17, . . .

3, 10, 17, 24, . . .

If these three patterns were continued, what is the first number that they would all have in common?

(A) 21
(B) 33
(C) 45
(D) 81

30. A carton contains 24 cans of corn, each with a mass of 450 grams. The empty carton has a mass of 25 grams.

What is the total mass of the carton and the cans altogether?

(A) 10·800 kg
(B) 10·825 kg
(C) 10·850 kg
(D) 10·875 kg

31. The times for the three songs on a CD are shown in minutes and seconds.

Song	Time
Jumping Jelly Jeans	3 min 57 sec
Bats Wearing Hats	4 min 48 sec
Kiwi Fruits in Suits	4 min 46 sec

What is the total playing time for the CD?

(A) 13 minutes 31 seconds
(B) 12 minutes 51 seconds
(C) 12 minutes 31 seconds
(D) 11 minutes 51 seconds

32. Here are the masses of four coins.

2·8 g 5·7 g 11·3 g 15·6 g

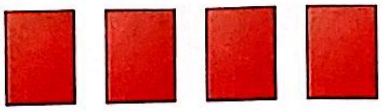
Louise has four bags of coins each containing $40.

Bag A has only 5c coins.
Bag B has only 10c coins.
Bag C has only 20c coins.
Bag D has only 50c coins.

Which bag weighs the most?

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

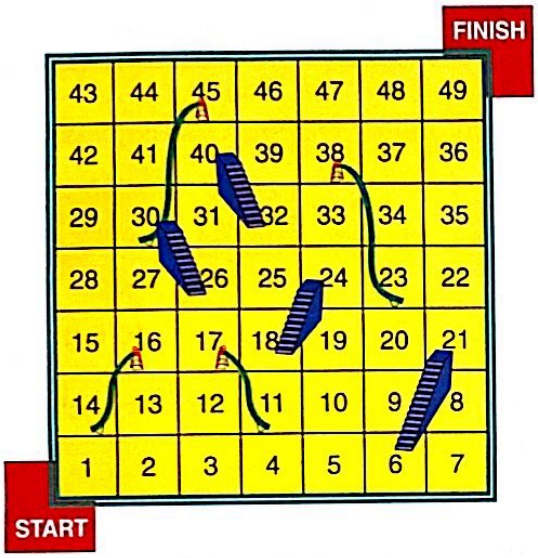
33. Holly has four tiles that each measure 3 cm by 4 cm.



What is the **longest** perimeter that can be obtained by placing the tiles side by side to form a larger rectangle?

(A) 28 cm
(B) 32 cm
(C) 38 cm
(D) 48 cm

34. This is a board game called **Slides and Steps.**



RULES

- A player rolls a dice and moves the number of squares shown on the dice.
- If a player lands on a square with steps on it, they must climb the steps to the higher square.
- If a player lands on a square with the top end of a slide on it, they must slide down to the lower square.
- All moves, except down slides, go in increasing order.

What number will Lucy end on if she throws a 6, 4, 1, 2, 5 and 2 in that order?

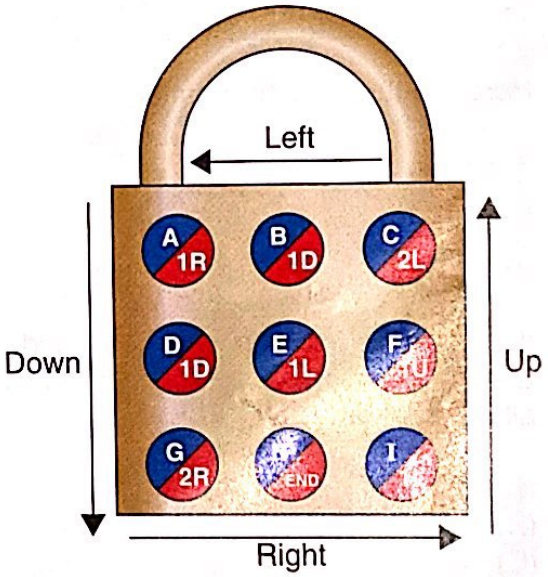
(A) 9
(B) 20
(C) 27
(D) 40

35. A car travels at 40 km/h for 80 km, then at 80 km/h for 40 km.

What is the average speed for the whole trip?

(A) 42 km/h
(B) 48 km/h
(C) 54 km/h
(D) 60 km/h

36. This padlock can be opened if **all** the buttons are pressed **once** and in the correct order.



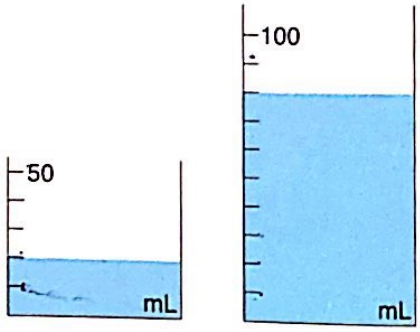
On the buttons, the letters U, D, L, R stand for Up, Down, Left and Right.

For example,  means press button A and then move 1 button to the Right.

If you end on button H, at which button should you **start** to open the lock?

(A) A
(B) C
(C) E
(D) F

37. The beakers below contain different amounts of water.



When this rock  is put into the larger beaker, its water level rises by 10%. The rock is then put into the smaller beaker.

What would be the percentage increase of the water level of the smaller beaker?

(A) 40%
(B) 35%
(C) 28%
(D) 22%

38. Each student in Year 5 was asked to bring a paint tin, a paint brush and glue for art.

Each student brought at least 1 item.

18 students brought all 3 items.
4 students forgot only the glue.
1 student brought only the glue.
2 students brought only a paint brush.

Altogether there were 25 paint tins, 25 paint brushes and 22 glue bottles.

How many students were there in Year 5?

(A) 24
(B) 25
(C) 29
(D) 72

39. Two pairs of children sit on these six chairs.

The two children in each pair must sit next to each other. However, within each pair, both children can sit on either side of one another. There must be at least one chair in between the two pairs of children.

How many different ways can the two pairs of children be seated?

(A) 36
(B) 24
(C) 8
(D) 3

40. It takes three people $2\frac{1}{2}$ hours to load 225 rolls of hay onto trucks.

How long will it take five people to load the same amount of hay, if they all work at the same rate?

(A) 75 minutes
(B) 90 minutes
(C) 105 minutes
(D) 135 minutes

END OF PAPER