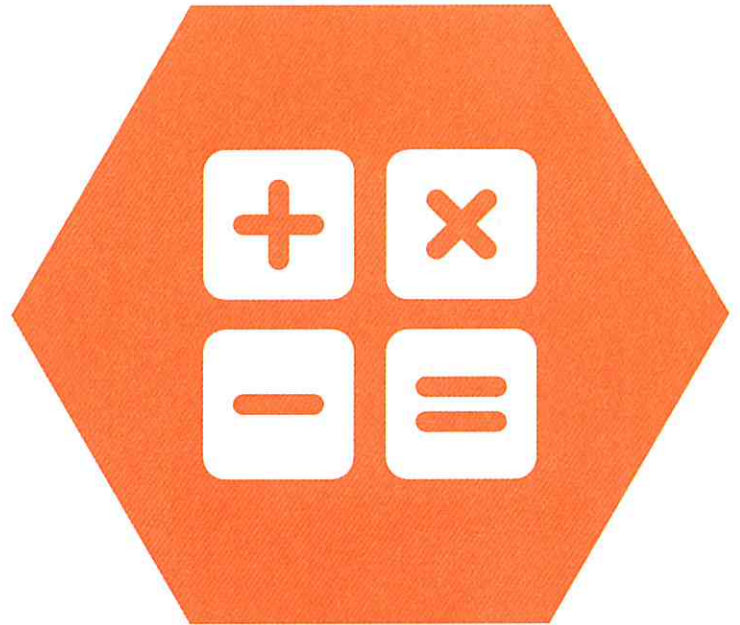




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THE UNIVERSITY OF NEW SOUTH WALES  
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# PAPER C



# 2014 ICAS

International Competitions  
and Assessments for Schools

## MATHEMATICS

Educational Assessment Australia  
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**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.

1.  $600 + 4000 + 3 = ?$

- (A) 6403
- (B) 4603
- (C) 643
- (D) 463

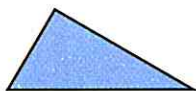
2. Which of these shapes has only one right angle?



(A)



(B)



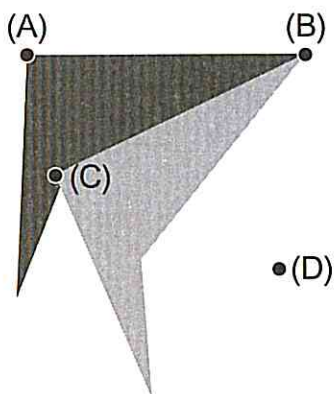
(C)



(D)

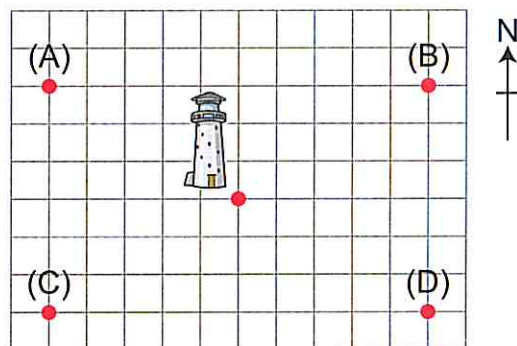
3. The picture shows two shapes.

About which point can the darker shape be rotated to completely cover the lighter shape?



4. Treasure is hidden at a point that is 3 units to the south and 5 units to the east of the lighthouse.

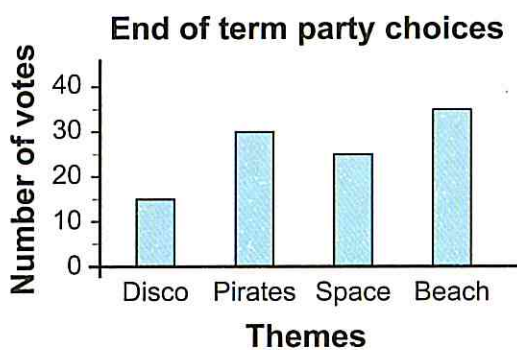
At which point is the treasure hidden?



5. Which of these has the same value as  $98 - 35$ ?

- (A)  $108 - 35$
- (B)  $108 - 25$
- (C)  $100 - 37$
- (D)  $100 - 33$

6. A group of students voted on the theme of their end of term party. Each student voted once only. The graph shows the results.



How many students voted altogether?

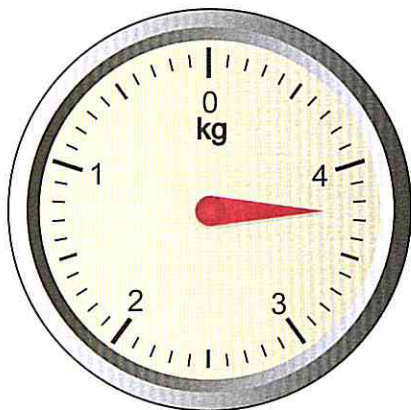
- (A) 105
- (B) 100
- (C) 90
- (D) 40



7.  $8806 - 2739 = ?$

- (A) 6133
- (B) 6103
- (C) 6077
- (D) 6067

8. What is the mass shown on the scale?



- (A) 4.75 kilograms
- (B) 4.25 kilograms
- (C) 3.75 kilograms
- (D) 3.25 kilograms

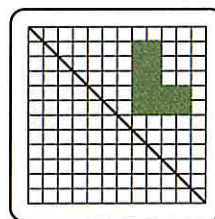
9. Lin exercises from 6:45 am to 7:10 am every day of the week.



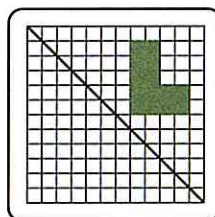
For how long does Lin exercise each week?

- (A) 2 hours 55 minutes
- (B) 2 hours 15 minutes
- (C) 1 hour 45 minutes
- (D) 1 hour 25 minutes

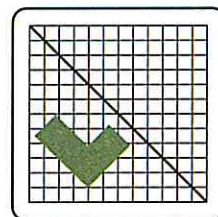
10. Yara cut out a piece of cardboard and placed it near a line on grid paper.



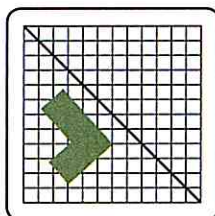
Which diagram shows Yara's piece of cardboard reflected in the line?



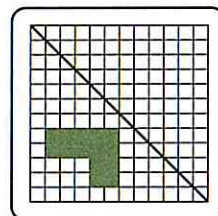
(A)



(B)



(C)



(D)

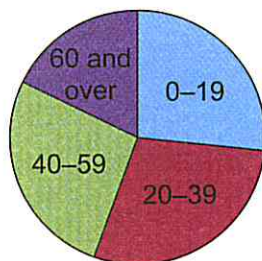
11. Which of these values is the arrow closest to?



- (A) 175
- (B) 220
- (C) 250
- (D) 275

12. The pie graph shows the proportion of Australian people in different age groups.

**The Age of Australians**



The graph shows that more than half of Australians are aged

- (A) under 20.
- (B) under 40.
- (C) 40 and over.
- (D) 60 and over.

13. Leila is helping her mum to bake cakes.

Each cake needs two cups of flour. For each cup of flour they need three eggs.

How many eggs does Leila need to make two cakes?

- (A) 3
- (B) 5
- (C) 6
- (D) 12

14. This is a logo Jack designed.

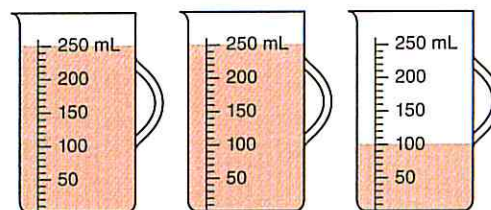


What will the logo look like after a quarter turn in a clockwise direction?

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

15. Kieren mixed orange juice and berry juice to make a fruit drink.

He had this amount of orange juice.



The amount of berry juice he added was one-quarter of the orange juice he had.

Which of these shows the amount of berry juice Kieren added?

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

16. Jill has 22 marbles. Pete has 46 marbles.

They are going to play a game where they need to have the same number of marbles.

Pete gave some of his marbles to Jill.

How many of his marbles did Pete give to Jill?

- (A) 34
- (B) 24
- (C) 23
- (D) 12

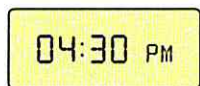
17. All the times shown on these clocks were on the same day.



L



M



N

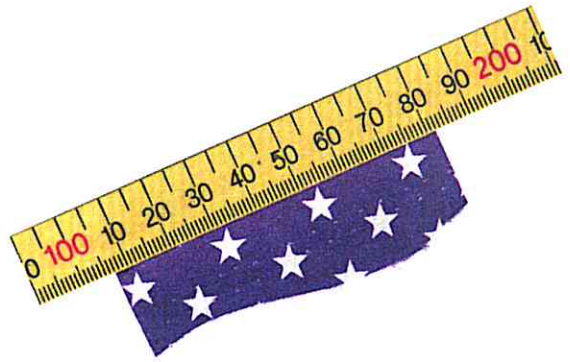


O

What is the order of the clocks from the earliest time to the latest time?

- (A) L, O, M, N
- (B) L, N, O, M
- (C) L, O, N, M
- (D) L, N, M, O

18. This fabric is being measured by a ruler that is marked in millimetres.



Which of these is closest to the length of the fabric?

- (A) 70 millimetres
- (B) 75 millimetres
- (C) 82 millimetres
- (D) 182 millimetres

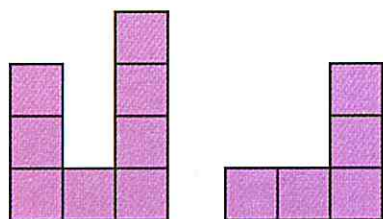
19. At the beginning of January Sally's hair had grown to 10 centimetres below her shoulders. Each month Sally's hair grew 12.5 millimetres.

How far below her shoulders was Sally's hair at the end of December?

- (A) 150 millimetres
- (B) 154.5 millimetres
- (C) 160 millimetres
- (D) 250 millimetres



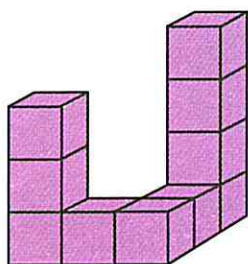
20. Natalia made a model using cubes. She drew the front view and the top view of the model.



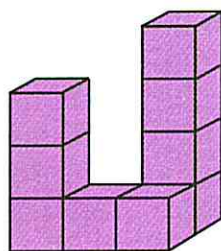
front view

top view

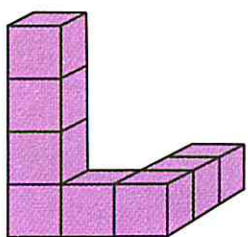
Which of these could be Natalia's model?



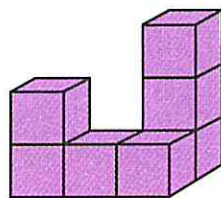
(A)



(B)



(C)



(D)

21. In a small wildlife park, one-quarter of the animals are snakes and the rest are lizards or birds. There are 70 snakes in the wildlife park.

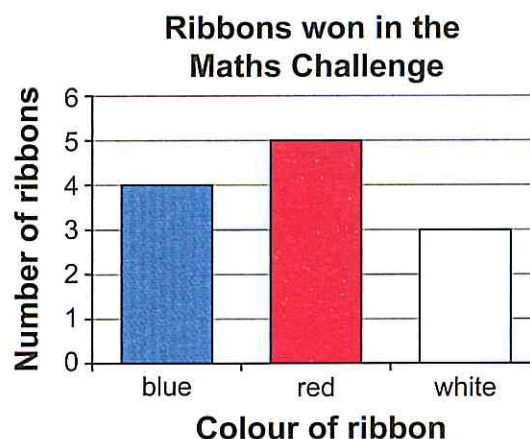
How many lizards and birds are there?

- (A) 70  
(B) 140  
(C) 210  
(D) 280

22. At Sam's school, points and ribbons are awarded for the first three places in each round of a Maths Challenge. The table shows the point value for each colour ribbon.

Colour of ribbon	Number of points
blue	3
red	2
white	1

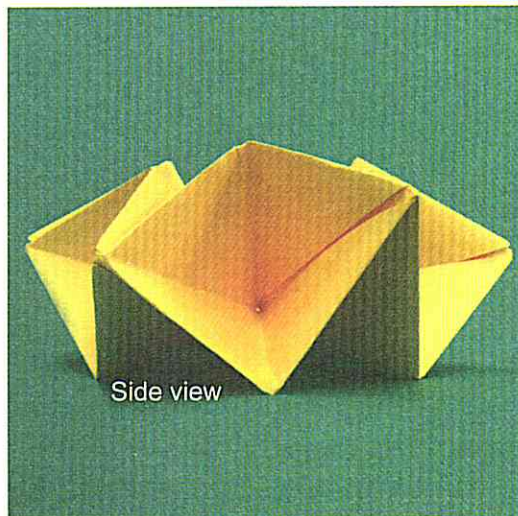
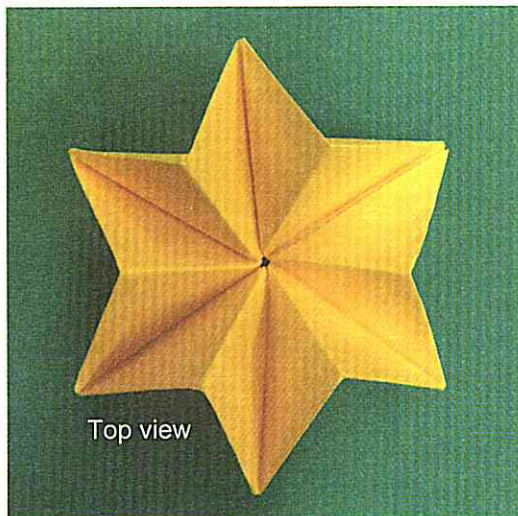
This graph shows the number of ribbons Year 4 won in the Maths Challenge.



What was the total number of points won by Year 4?

- (A) 5  
(B) 12  
(C) 23  
(D) 25

23. This is a model of a 3D object made by folding paper.



How many faces does the 3D object have?

- (A) 12
- (B) 24
- (C) 48
- (D) 60

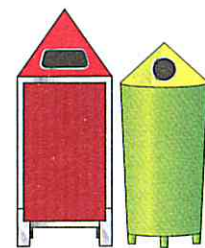
24. This picture shows two bins for waste when viewed from the south.



What do the bins look like viewed from the east?



(A)



(B)



(C)



(D)

25. This number line has equal intervals marked.

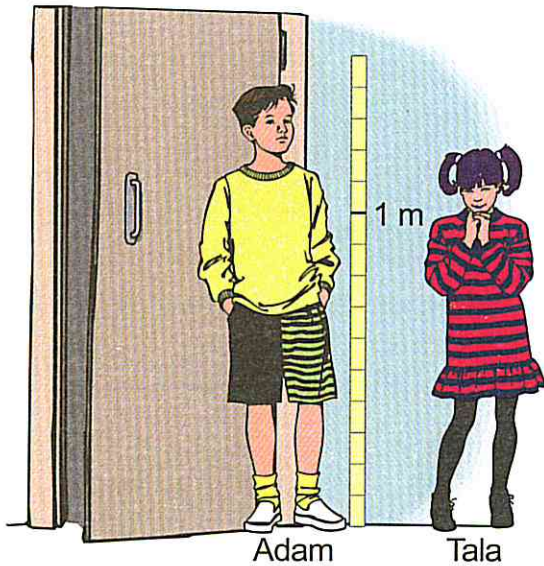


What value is indicated by the arrow?

- (A) 0.30
- (B) 0.20
- (C) 0.17
- (D) 0.15



26. Using the ruler in the picture, how much taller than Tala is Adam?



- (A) 2 centimetres  
(B) 20 centimetres  
(C) 2 metres  
(D) 20 metres

27. Mr Zheng chose two whole numbers greater than zero.

He gave his students three clues to guess the numbers:

- If you add the numbers, the answer is 16.
- If you multiply the numbers, the answer is less than 62.
- The first number is smaller than the second number.

How many different pairs of numbers could he have chosen?

- (A) 4  
(B) 5  
(C) 6  
(D) 7

28. Angus sells smoothies. Customers choose a size, a base flavour and a fruit.

Their choices are:

**size:** large or small

**base:** chocolate, vanilla or caramel

**fruit:** strawberry, banana or pineapple.

Angus never sells the following combinations in either the large or small size:

- chocolate with pineapple
- caramel with strawberry
- caramel with pineapple.

How many different types of smoothies does Angus sell?

- (A) 12  
(B) 13  
(C) 15  
(D) 18

29. George is saving money to buy a new skateboard. In the first month he saved \$12. Every month after the first he saved \$2 more than the month before.

How much money did George save in total in 5 months?

- (A) \$20  
(B) \$60  
(C) \$70  
(D) \$80



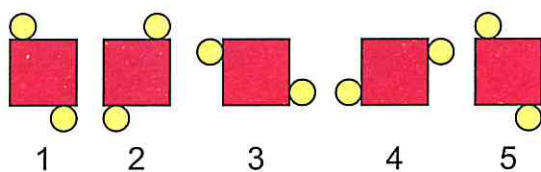
30. Gary's height is 146 centimetres. Susan's height is 132 centimetres.

Billy's height is exactly halfway between Gary's height and Susan's height.

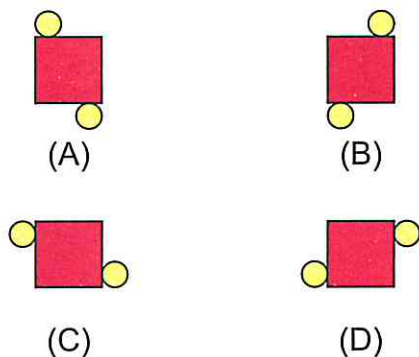
What is Billy's height?

- (A) 153 centimetres  
(B) 144 centimetres  
(C) 139 centimetres  
(D) 138 centimetres

31. Here are the first five shapes in a pattern.



Which of these is shape 16 in the pattern?



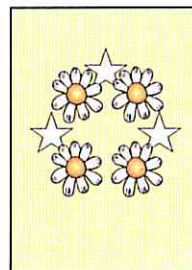
32. Jess thought of a 2-digit number. The product of the digits of the number is equal to double the sum of the digits of the number.

Which of the following could be the number Jess thought of?

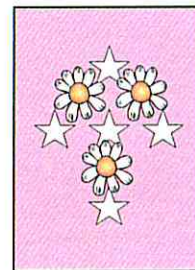
- (A) 11  
(B) 22  
(C) 36  
(D) 42

33. Sana made birthday and wedding cards.

Each birthday card had three stars and four flowers. Each wedding card had five stars and three flowers.



Birthday card



Wedding card

Sana had 101 stars. She made twelve birthday cards. She used the remaining stars to make wedding cards.

How many flowers did she need to make all the birthday cards and wedding cards?

- (A) 87  
(B) 84  
(C) 48  
(D) 39

34. Five students made 114 cupcakes to sell at school.

This table shows some of the information about the number of cupcakes each student made.

Student	Number of Cupcakes
Marcia	
Jacob	?
Jen	
Rachel	?
Nathan	

KEY = 12 cupcakes

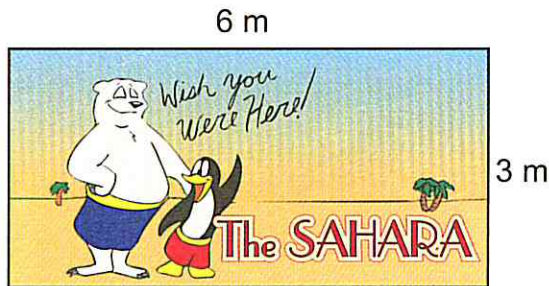
Jacob made eight more cupcakes than Rachel.

How many cupcakes did Jacob make?

- (A) 20  
(B) 24  
(C) 28  
(D) 32

35. Mike makes advertising signs. The length is always twice the height.

This picture shows the most popular size.



A customer wants Mike to make a sign with a perimeter of 42 metres.

What are the dimensions of this sign?

- (A) 5 metres and 16 metres
- (B) 7 metres and 14 metres
- (C) 6 metres and 7 metres
- (D) 14 metres and 28 metres

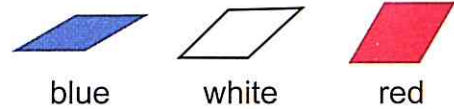
36. Annie's bag has a lock with a 4-digit code.

This code is the greatest 4-digit number which leaves a remainder of 1 when divided by each of the numbers 2, 3, 4, 5, 6 or 7.

Which of these is the code number of Annie's lock?

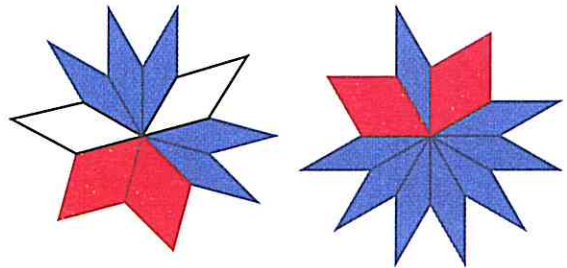
- (A) 9995
- (B) 9991
- (C) 9661
- (D) 9660

37. Abi has these three kinds of tiles.



Each kind of tile is a rhombus. Tiles that are the same colour are identical.

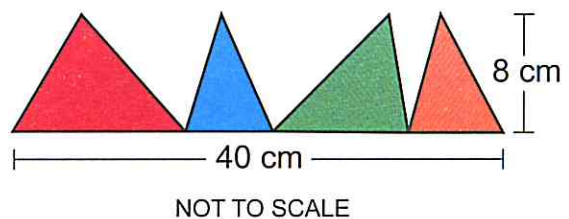
Abi made these two patterns with her tiles. In both patterns the tiles fit together around a point with no overlaps.



How many white tiles would fit around a point without overlaps?

- (A) 6
- (B) 8
- (C) 9
- (D) 10

38. Mike made this design.



What is the total coloured area of the design, in  $\text{cm}^2$ ?

- (A) 80
- (B) 96
- (C) 160
- (D) 320



39. Mr Jones uses a 500 millilitre spray bottle of cleaner.

Each evening he cleans his kitchen bench using two sprays from the bottle. Each spray delivers 4 millilitres of cleaner.

Mr Jones opened a new bottle of cleaner on 12 April.

On which of these dates will this bottle of cleaner become empty?

- (A) 12 June
- (B) 13 June
- (C) 14 August
- (D) 15 August

40. Four luggage bags were weighed.

Bags	Total mass (kilograms)
bag 1, bag 2, bag 3	70
bag 1, bag 3, bag 4	75
bag 1, bag 2, bag 3, bag 4	100

What was the total mass of bag 1 and bag 3?

- (A) 25 kilograms
- (B) 30 kilograms
- (C) 45 kilograms
- (D) 55 kilograms

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The following year levels should sit **THIS Paper**:

Australia	Year 5
Brunei	Primary 5
Indonesia	Year 6
Malaysia	Standard 5
New Zealand	Year 6
Pacific Region	Year 6
Singapore	Primary 4
South Africa	Grade 5



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Paper C	
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A	C
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C	C
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