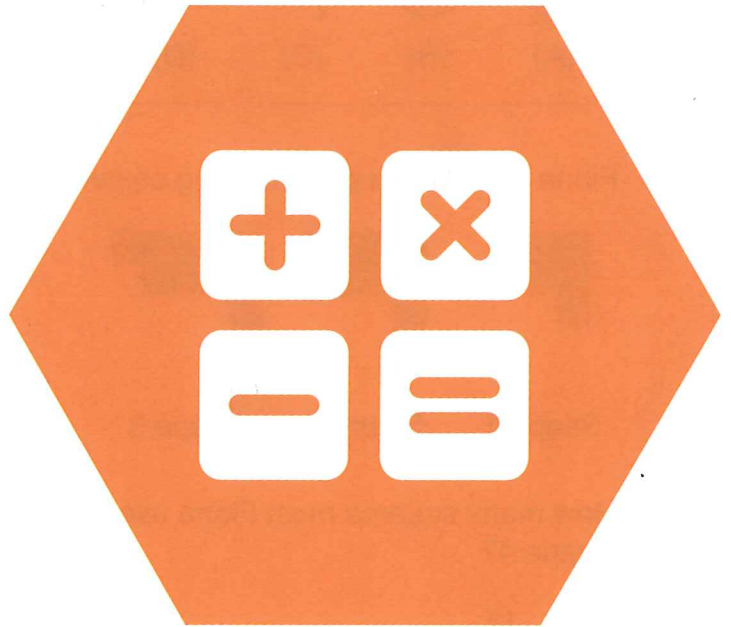




UNSW Global
AUSTRALIA

PAPER C



2015 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. This arrow is reflected in the dashed line.



Which option shows the reflected image?



(A)



(B)

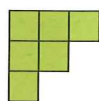


(C)

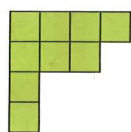


(D)

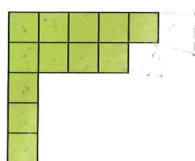
2. Fiona is making a pattern using squares.



Shape 1



Shape 2



Shape 3

How many squares must Fiona use in Shape 4?

- (A) 13
(B) 14
(C) 15
(D) 16
3. $30714 = 30000 + \text{?} + 10 + 4$

What number must ? be?

- (A) 7
(B) 70
(C) 700
(D) 7000

4. The Jets played the Knights in a game of rugby in which only tries and conversions were scored. This is the scoring system.

1 try = 5 points

1 conversion = 2 points

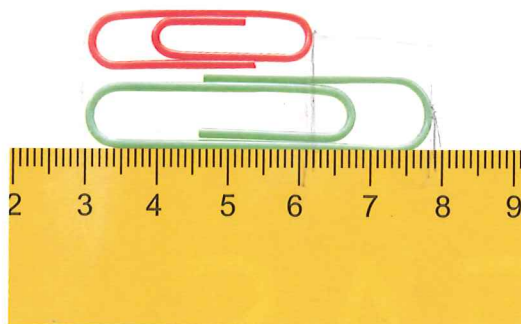
The Jets made three tries. They scored a total of 19 points.

How many conversions did the Jets make?

- (A) 1
(B) 2
(C) 4
(D) 7

5. Joe measured two paperclips using a ruler marked in centimetres.

Using the ruler in the photo, how much longer than the small paperclip is the big paperclip?

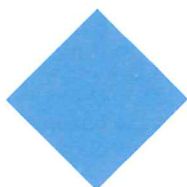


- (A) 1.7 cm
(B) 2.0 cm
(C) 3.1 cm
(D) 7.8 cm

6. Toma had this card.



Which of these cards is identical to Toma's card?



(A)



(B)



(C)



(D)

7. Sally filled four black bottles with cordial. Three bottles had orange cordial and one had lime cordial.



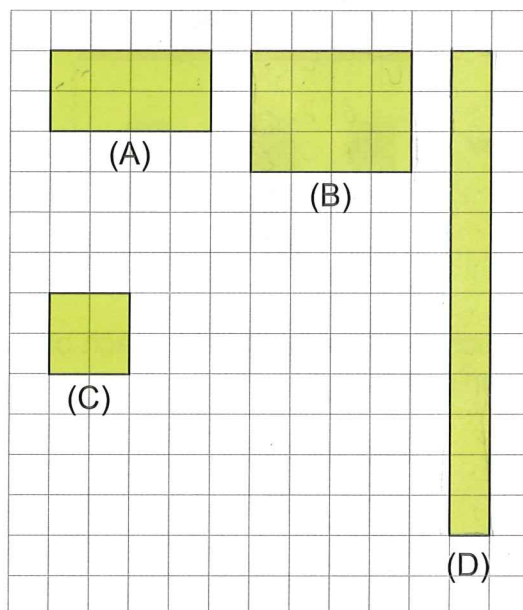
Jack came into the room and took one of the bottles.

What is the chance Jack took the bottle filled with lime cordial?

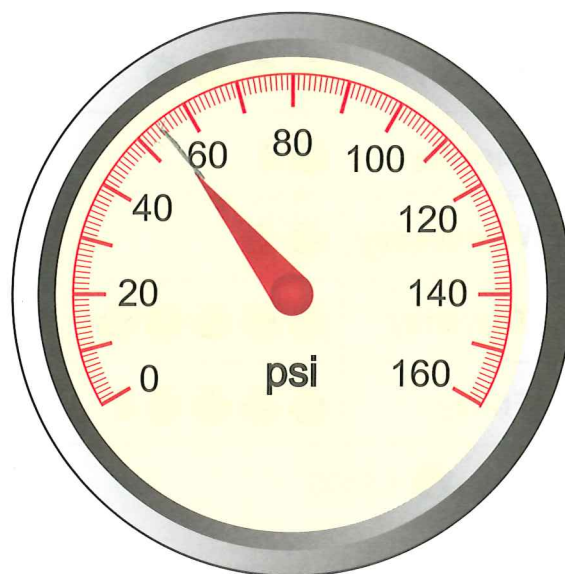
- (A) unlikely
- (B) likely
- (C) certain
- (D) even chance

8. Anna drew some shapes on 1 cm grid paper.

Which shape has a perimeter of 12 cm?

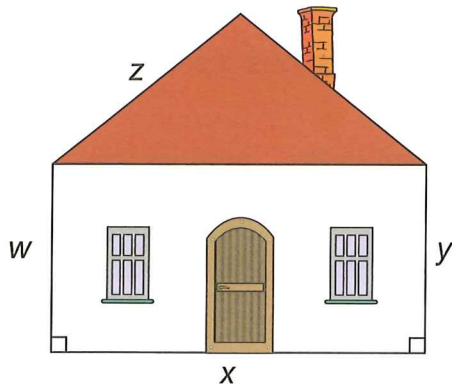


9. What value is the arrow pointing to on this scale?



- (A) 60
- (B) 59
- (C) 54
- (D) 47

10. John drew a picture of his house.



Which sides are parallel to each other on John's drawing?

- (A) x and y
- (B) x and z
- (C) w and z
- (D) w and y

12. Mrs Liang had 15 oranges. She cut each orange into quarters and gave an equal number of quarters to each of her 5 students.

How many orange quarters did each student get?

- (A) 3
- (B) 6
- (C) 10
- (D) 12

13. $15 + \boxed{?} = 32 - 6$

- (A) 11
- (B) 17
- (C) 23
- (D) 26

11. Darsh delivers furniture with his father.

This table shows how much money they earned over five days.

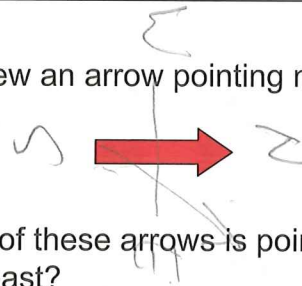
| | |
|-----------|--|
| Monday | |
| Tuesday | |
| Wednesday | |
| Thursday | |
| Friday | |

Key: = \$100

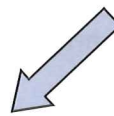
How much more money did they earn on Thursday than on Tuesday?

- (A) \$650
- (B) \$450
- (C) \$350
- (D) \$150

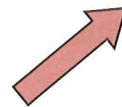
14. Mia drew an arrow pointing north.



Which of these arrows is pointing north-east?



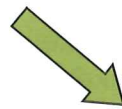
(A)



(B)



(C)



(D)

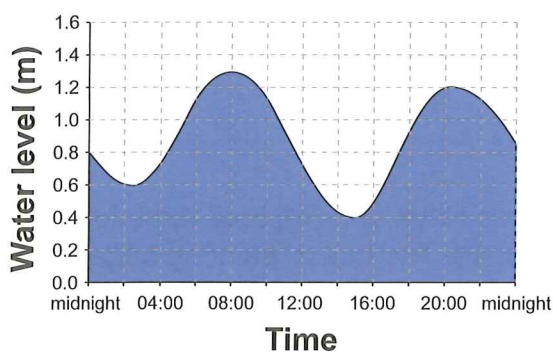
15. There are less than 40 beads in a pile. There are 17 blue beads and the rest are red. The number of red beads is a prime number.

What is the greatest possible number of red beads in the pile?

- (A) 17
(B) 19
(C) 21
(D) 23

16. The chart shows how the water level in a harbour changed on a particular day.

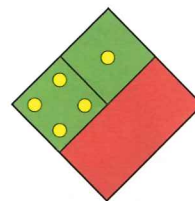
Water Level on a Day



What was the difference between the highest and the lowest water level?

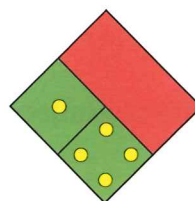
- (A) 0.1 m
(B) 0.7 m
(C) 0.9 m
(D) 1.3 m

17. Janice drew this shape.

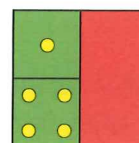


Janice rotated it anticlockwise by a quarter of a turn.

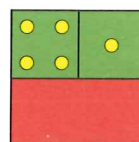
Which of these shows the shape after this rotation?



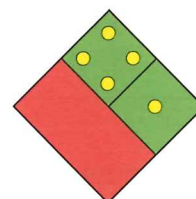
(A)



(B)

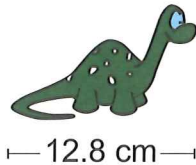
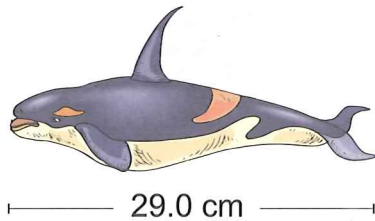


(C)



(D)

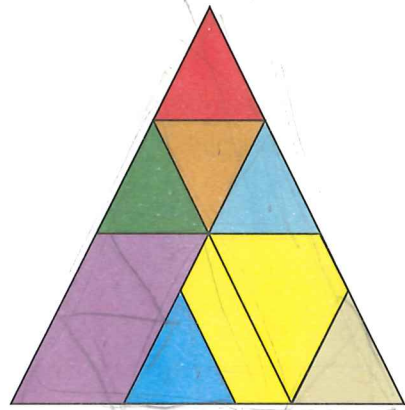
18. Matteo has one toy killer whale and three identical toy dinosaurs. The lengths of these two types of toys are shown.



What was the total length of Matteo's four toys, in centimetres?

- (A) 41.8
- (B) 57.4
- (C) 65.8
- (D) 67.4

20. This picture shows a triangle which has been divided into smaller shapes.

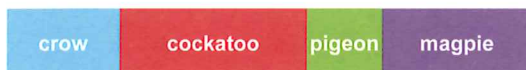


How many triangles of any size are in this picture?

- (A) 6
- (B) 9
- (C) 10
- (D) 11

19. Sue counted the birds in a park. She noticed that there were only four types. In total, Sue recorded 140 birds.

She represented the results in this graph.



How many cockatoos did Sue record?

- (A) 30
- (B) 40
- (C) 50
- (D) 60

21. Ardi, Priya and Raj took turns to paint their house. The house painting began at 7 am and finished at 11 pm without a break.

Priya painted for one-quarter of the time. Ardi painted for the same amount of time as Raj.

How long did Raj spend painting the house?

- (A) 12 hours
- (B) 6 hours
- (C) 4 hours
- (D) 3 hours

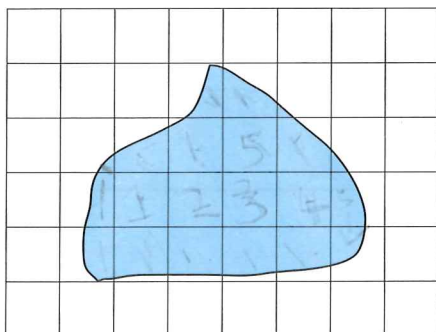
22. Yara and Danny collected a total of 48 shells.


Danny collected 3 times as many shells as Yara did.

How many shells did Yara collect?

- (A) 12
- (B) 16
- (C) 32
- (D) 36

23. The map shows a lake.



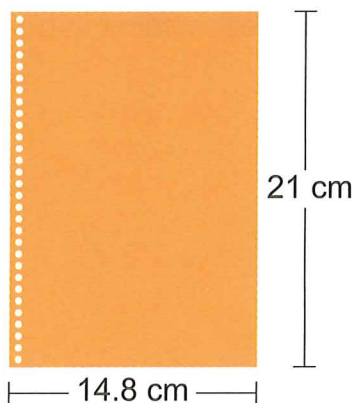
 = 1 km²

What is the approximate area of the lake, in km²?

- (A) 10
- (B) 14
- (C) 17
- (D) 20

24. Ann used a book to measure the area of her desk.

Here is a picture of Ann's book.



She found that the area of her desk is 12 times greater than the area of her book.

Which of the following gives the area of Ann's desk, in cm²?

- (A) $14.8 + 21 + 12$
- (B) $14.8 \times 21 \times 12$
- (C) $(14.8 + 21) \times 12$
- (D) $2 \times (14.8 + 21) \times 12$

25. There was at least one bicycle and at least one tricycle on display in a shop.



bicycle – 2 wheels



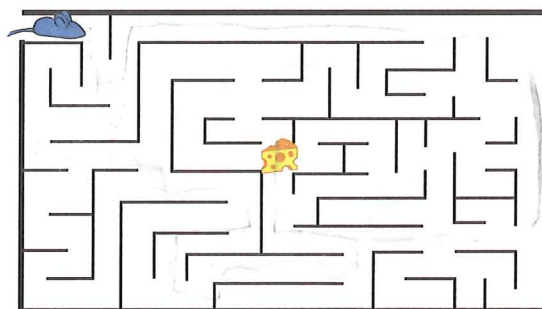
tricycle – 3 wheels

Altogether, there were 18 wheels used in the display.

What was the smallest number of bicycles that could be on display?

- (A) 0
- (B) 1
- (C) 2
- (D) 3

26. A mouse enters a maze looking for cheese.



What is the least number of quarter turns the mouse can make to reach the cheese?

- (A) 6
- (B) 7
- (C) 11
- (D) 15

27. Pete is at the zoo. He meets his friends at a kiosk where he reads this sign.

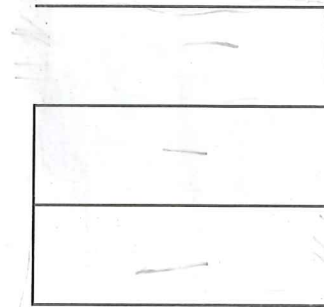


They decide to visit the lions, giraffes and zebras in that order. These three animal exhibits lie on the same straight path.

How far will they walk from the kiosk to where they will finish at the zebras?

- (A) 750 metres
- (B) 830 metres
- (C) 910 metres
- (D) 990 metres

29. Jia drew a square and divided it into three equal parts. She removed two lines to make this shape.



What fraction of the perimeter of Jia's original square was removed?

- (A) $\frac{2}{18}$
- (B) $\frac{2}{12}$
- (C) $\frac{2}{10}$
- (D) $\frac{2}{8}$

30. Senin made this number pattern.

2, 5, 11, 23, 47, ?

What is the next number in his pattern?

- (A) 95
- (B) 83
- (C) 71
- (D) 69

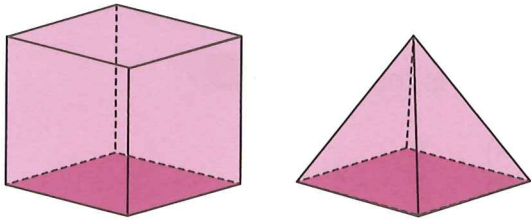
28. Samir is buying an ice-cream with two different flavours. He can choose to have the ice-cream in a cup or a cone.



How many possible choices does Samir have?

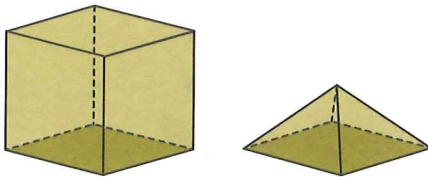
- (A) 6
- (B) 8
- (C) 12
- (D) 16

31. The cube and square pyramid below have the same height and base.



The volume of the cube is three times the volume of the pyramid.

Mia has a cube and a square pyramid.

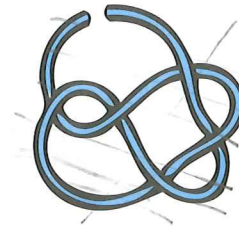


Mia's shapes have the same base, but the cube is twice as high as the pyramid.

How many times greater than the volume of Mia's pyramid is the volume of Mia's cube?

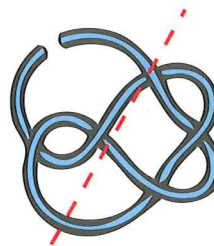
- (A) 8
- (B) 6
- (C) 4
- (D) 2

32. Aditya had this tangled piece of wool.

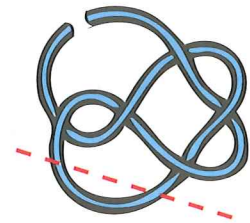


He cut the wool into 7 pieces using one straight cut.

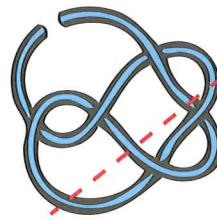
Which of the following diagrams shows the path Aditya took to cut the wool?



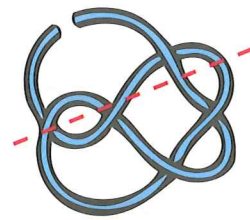
(A)



(B)

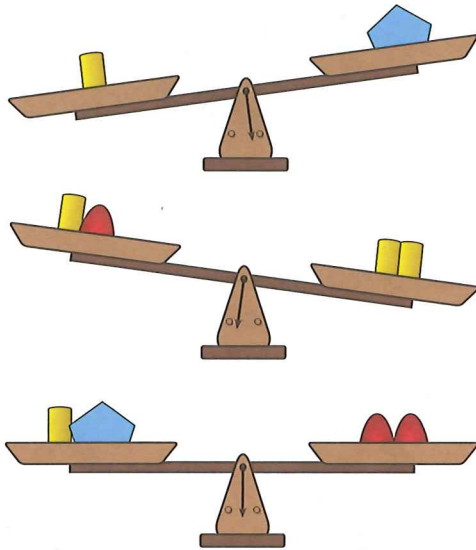


(C)



(D)

33. Ravi used a balance to compare the masses of some objects. His results are shown below.



Which of the following must be true?

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

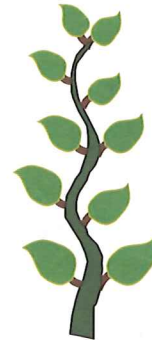
34. The and represent different digits.

$$4 \text{ - 400 = 400 - \text{ 4$$

What is the value of ?

- (A) 1
(B) 2
(C) 3
(D) 6

35. Today, Jackie's bean plant has 10 leaves.



Jackie's bean plant grows 2 new leaves every 3 days and loses none.

How many more days will it be before her plant has 40 leaves?

- (A) 60
(B) 45
(C) 27
(D) 20

36. There were four boys in a running race.

- Raul and Ali beat Bill.
- Faisal was beaten by Ali but beat Bill.
- Raul beat Faisal but was beaten by Ali.

Which of these is the correct finishing order?

- (A) Raul, Ali, Bill, Faisal
- (B) Faisal, Ali, Raul, Bill
- (C) Bill, Raul, Ali, Faisal
- (D) Ali, Raul, Faisal, Bill

37. Ann, Sasi, Lin and Mia went to a fair.

Ann had \$5 and spent \$3.50.

Sasi had \$10 and spent \$7.50.

Lin had \$15 and spent \$10.50.

Mia had \$20 and spent \$10.

Which girl spent the largest fraction of the money she had?

- (A) Ann
- (B) Sasi
- (C) Lin
- (D) Mia

38. Mark had a 10 metre length of ribbon. He kept folding the ribbon in half as shown.



Mark stopped as soon as it measured less than 10 centimetres.

How many layers of ribbon did he have?

- (A) 128
- (B) 64
- (C) 14
- (D) 7

39. Paul had a square piece of paper.

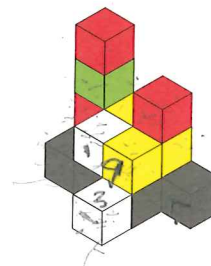
He cut out a rectangle from the paper that was 4 centimetres by 9 centimetres.

The area of the left over paper was 108 square centimetres.

What was the length of the sides of Paul's original square?

- (A) 9 centimetres
- (B) 11 centimetres
- (C) 12 centimetres
- (D) 13 centimetres

40. Cai made this solid with 16 cubes.



How many faces of these cubes are on the outside of this solid, including the base?

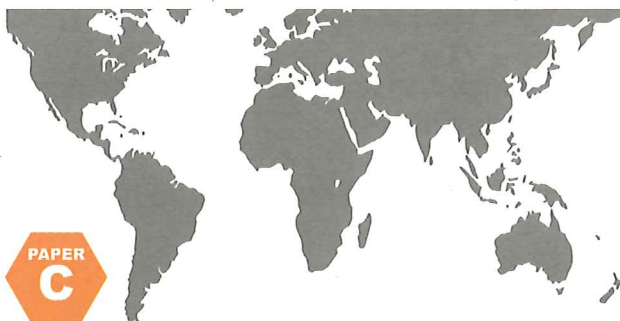
- (A) 56
- (B) 52
- (C) 50
- (D) 44

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| 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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