1. Which digit is in the hundreds place in 4567?

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

2. Adam's birthday is 8 July.

Sunil's birthday is exactly 3 weeks later.

JULY						
M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

What is the date of Sunil's birthday?

(A) 20 July
(B) 22 July
(C) 27 July
(D) 29 July

3. Which shape has **exactly** one line of symmetry?

(A) 

(B) 

(C) 

(D) 

4. 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

5. Around the Clock Restaurant has a unique 24-hour clock on the wall.

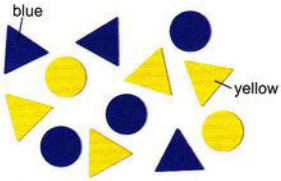
The first twelve hours are written on the outside as Roman numerals and the next twelve are written on the inside as Arabic numerals.

The clock is so old that it has lost some of the Arabic numerals.

What number should be written in ?

(A) 10
(B) 16
(C) 20
(D) 22

6. The picture shows some shapes.

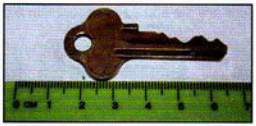


Bill picks one of the shapes without looking.

What is he most likely to pick?

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

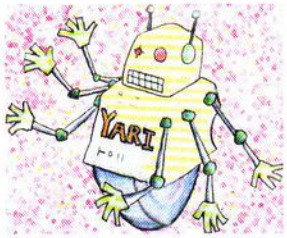
7. This photo shows a key and a ruler.



According to the ruler in the photo, how long is the key in centimetres?

(A) 4.5
(B) 5
(C) 6
(D) 6.5

8. The Yari robot has six hands. Each hand has four fingers.



How many fingers would 12 Yari robots have?

(A) 24
(B) 72
(C) 288
(D) 360

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

What are the next two shapes in the pattern?


(A)


(B)


(C)


(D)

10. $4 \times 8 + 3 =$? $- 19$

(A) 16
(B) 24
(C) 35
(D) 54

11. What is the smallest number that can be divided by 3, 4 and 5 with no remainder?

(A) 15
(B) 45
(C) 60
(D) 120

12. 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

13. The diameter of a given circle is 12 centimetres.

What is the radius of that circle, in centimetres?

(A) 3
(B) 6
(C) 12
(D) 24

14. Here are some shapes.

How many of these shapes are parallelograms?

(A) 1
(B) 2
(C) 3
(D) 4

15. Manling was facing south-west and then she turned 90 degrees clockwise.

Which direction was she then facing?

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

16. Sunil made this number pattern:

4, 9, 19, 39 ...

He used this strategy:

$4 + 5 = 9$
$9 + 10 = 19$
$19 + 20 = 39$

Adam made the same pattern using a different strategy. He started with the number 4.

What is the strategy that Adam used?

(A) add 10
(B) multiply by 3 then subtract 3
(C) double the number then add 1
(D) write the next number that ends with 9

17. A shop has 50 small plastic koalas like this one.

Each koala has a mass of 113 grams.

What is the total mass of all the koalas, in grams?

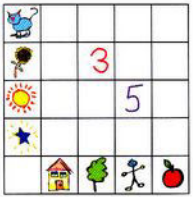
(A) 5650
(B) 5500
(C) 565
(D) 500

18. Sunil is making a model plane. He has two wooden sticks of lengths 1.12 metres and 0.88 metres. He glued the ends of the two sticks together to make a piece for his plane.

What is the length of this piece, in metres?

(A) 2.10
(B) 2.00
(C) 1.90
(D) 1.12

19. Noor is using this grid to represent the position of numbers.



In this grid the position of the number 3 is given as (flower, tree).

Using Noor's representation, what is the position of the number 5?

(A) (sun, tree)
(B) (tree, sun)
(C) (boy, sun)
(D) (sun, boy)

20. Adam has 24 chocolates and 72 sweets. He wants to use all of these to make identical birthday gift bags.

What is the largest number of gift bags he can make?

(A) 72
(B) 24
(C) 12
(D) 8

21. The country of Yeno has a currency called 'yenom'. They have coins of the following types:

- 1 yenom
- 2 yenoms
- 5 yenoms
- 10 yenoms
- 20 yenoms
- 50 yenoms.

Adam bought an item that cost 59 yenoms and no change was required.

What is the smallest number of coins Adam could have used to pay?

(A) 6
(B) 5
(C) 4
(D) 3

22. Here is the train timetable for the Lorikeet City line.

Lorikeet City Line

Weekdays

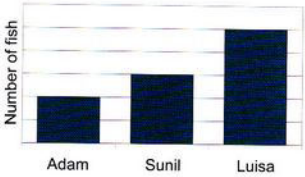
	am	am	am
Waratah	6:49	7:43	---
Dene	---	7:47	---
Sea Cove	7:02	---	---
Lilyton	7:11	---	---
Kennedy	7:13	---	---
North Station	7:19	8:09	---
Janis Town	7:21	8:11	8:22
Cornu	---	8:14	---
Bellgrove	7:27	8:21	---
Natureville	7:30	---	8:29
Eagledon	---	---	8:31
Karinton	---	---	8:33
Megdale	7:34	8:28	8:35

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

23. Adam, Sunil and Luisa went fishing. This graph shows how many fish each person caught.



Sunil caught three more fish than Adam.

How many fish did Luisa catch?

(A) 15
(B) 10
(C) 6
(D) 5

24. The average height of students in a class is 130 centimetres (cm). Adam, Luisa, Sunil and Noor are students in this class. Their heights are given in the table.

Student	Height (cm)
Adam	120
Luisa	125
Sunil	130
Noor	145

One of these students is leaving school. As a result, the average height of this class will go down.

Who is leaving school?

(A) Adam
(B) Luisa
(C) Sunil
(D) Noor

25. Manling swaps ZING, ZANG and ZONG cards with a friend.

1 ZING card can be swapped for 3 ZANG cards.

1 ZANG card can be swapped for 4 ZONG cards.

Which group of cards has the highest value?

(A)

(B)

(C)

(D)

26. This is what the angle between the minute hand and the hour hand of the clock looks like at 5:15.

5:15

At which of these times is the angle between the hands of the clock the smallest?

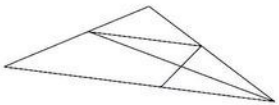
(A) 6:45

(B) 3:30

(C) 12:15

(D) 9:00

27. How many triangles are there in this shape?



(A) 4
(B) 5
(C) 9
(D) 10

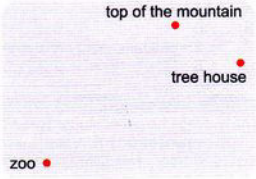
28. In a carton there are 12 packets of chicken legs. Each packet has 10 legs in it.

A cafeteria served 3 legs per meal.
They used 8 cartons of chicken legs.

How many meals of chicken legs were served?

(A) 32
(B) 40
(C) 320
(D) 360

29. Based on the map below, the tree house is 5 kilometres from the top of the mountain.



How far is the zoo from the top of the mountain, in kilometres?

(A) 14.5
(B) 12.5
(C) 11
(D) 5

30. A group of friends shared 108 chocolates equally. The number of chocolates each friend got was three more than the number of friends.

How many chocolates did each friend get?

(A) 6
(B) 9
(C) 12
(D) 18

31. Manling and Luisa arranged a time to meet to play tennis. Manling arrived 20 minutes late. Luisa arrived 5 minutes early.

Luisa arrived at 12:45 pm.

At what time did Manling arrive?

(A) 1:10 pm
(B) 1:00 pm
(C) 12:50 pm
(D) 12:30 pm

32. David's clock is not working properly. The hour changes every 40 minutes instead of every 60 minutes.

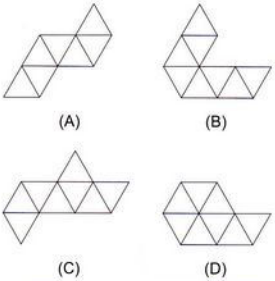
David's clock was correct at 12:00 am. It now shows this time:

What is the correct time?

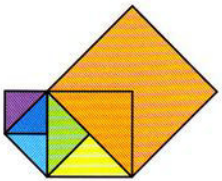
(A) 2:15 am
(B) 2:55 am
(C) 3:45 am
(D) 4:35 am

33. An octahedron is a 3D shape with eight faces.

Which of these is a net of an octahedron?



34. Noor drew a small square. Using its diagonal, she drew a larger square. Using the diagonal of this new square, she drew another square. She repeated this again to draw the largest square seen in the shape below.



The area of the smallest square is 16 cm^2.

What is the area of the whole shape, in cm^2?

(A) 128 (B) 184

(C) 240 (D) 256

35. Adam sat three spelling tests and got 80% of all words correct.

Here are his results:

Test 1	Test 2	Test 3
$\frac{24}{30}$	$\frac{27}{30}$	$\frac{?}{30}$

How many words did Adam get correct in Test 3?

(A) 19
(B) 21
(C) 24
(D) 29

36. One morning Luisa, Noor and Manling counted their pencils. They found that Luisa had three times the number of pencils that Manling had and Noor had twice the number that Manling had.

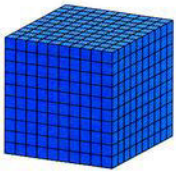
By the end of the day, Noor had lost four pencils, and had 34 pencils left.

How many pencils did Luisa have on that morning?

(A) 45
(B) 57
(C) 68
(D) 76

37. Sunil had 1000 small white cubes.

He glued them together to make this solid. He then painted all faces of the solid blue.



How many small cubes were **not** painted blue?

(A) 640
(B) 600
(C) 512
(D) 400

38. Sunil had a cake for his party.

At the party, $\frac{3}{5}$ of the cake was eaten.

What was left over weighed 600 g.

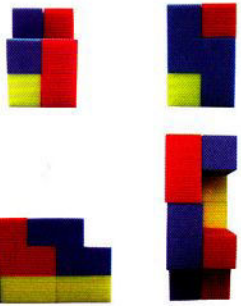
What was the weight of the whole cake?

(A) 240 g
(B) 360 g
(C) 1 kg
(D) 1.5 kg

39. Adam has a number of blocks like this in different colours.

Adam used some of these blocks to make an object.

Here are some photos of Adam's object taken from different views.



How many blocks did Adam use to make the object?

(A) 3
(B) 5
(C) 6
(D) 7

40. Noor knows that David, Adam, Jane and Luisa are brothers and sisters. However, she does not know the order in which they were born.

There are 24 different combinations of their birth order.

How many **more** different combinations would there be if there were five children in the family?

(A) 96
(B) 56
(C) 5
(D) 1

2010 ICAS MATHEMATICS
ANSWER KEY

NO	PAPER A (4 SD)	PAPER B (5 SD)	PAPER C (6 SD)	PAPER D (1 SMP)	PAPER E (2 SMP)	PAPER F (3 SMP)	PAPER G (1 SMA)
1	B	B	B	A	A	C	A
2	A	B	D	B	C	C	A
3	A	C	A	D	D	B	C
4	D	D	B	D	B	B	D
5	C	C	D	A	D	A	A
6	B	B	B	B	A	C	D
7	C	A	B	D	C	C	B
8	B	D	C	C	D	B	A
9	A	A	A	C	D	D	D
10	C	D	D	C	A	C	A
11	C	D	C	A	D	A	D
12	D	B	B	A	B	A	B
13	B	C	B	D	A	D	C
14	A	B	C	B	C	C	C
15	D	B	B	B	C	A	B
16	B	A	C	B	D	D	B
17	B	A	A	D	B	D	C
18	A	A	B	D	D	B	B
19	D	D	D	B	B	B	C
20	D	B	B	C	B	C	A
21	B	A	C	A	B	A	B
22	C	C	D	C	C	A	D
23	C	B	A	B	C	B	B
24	C	D	D	D	B	B	C
25	A	D	D	C	B	B	A
26	A	B	A	D	C	D	B
27	C	C	C	C	A	A	B
28	A	D	C	C	A	C	A
29	C	C	B	B	B	B	C
30	A	C	C	C	B	D	D
31	B	D	A	B	D	D	D
32	B	D	B	B	D	D	D
33	C	B	C	D	C	C	C
34	D	B	B	C	A	B	D
35	C	D	B	A	A	D	B
36	B	B	B	576	576	60	12
37	C	C	C	394	60	5	6
38	B	A	D	120	120	8	3
39	A	C	C	36	14	81	3
40	D	A	A	648	45	58	173
41	D			A	B	B	A
42	B			D	C	C	D
43	C			B	A	A	B
44	C			C	B	B	C
45	A			D	A	A	D
46				A	A	A	A
47				C	C	C	C
48				B	C	C	B
49				D	B	B	D
50				A	A	A	A
51				A	D	D	A
52				B	D	D	B
53				B	D	D	B
54				D	C	C	D
55				C	C	C	C
56				A			A
57				A			A
58				D			D