



Mathematics Challenge 2015

by

Children's Well-wishers Network (CWN)

YEAR 2

Mark Scheme

We provide mark schemes of our CWN Mathematics Challenge 2015 examination papers to help parents.

Please note that for some problems there are more than one possible answer.

Some questions are open ended.

We strongly advise all children to practise the papers and think hard before looking at the answers provided.

Full answers and explanations will be provided on our feedback sessions.

In general, we expect units, directions, sensible answers and reasons in all questions.

Q1) Hansika had winked 144 times in 12 days.



How many times did she wink each day?

12 times

(1 mark)

What assumption have you made?

She winked the same number of times each day.

(1 mark)

Q2) Describe this sequence:

42, 52, 62, 72...

Add 10 (to the previous term)

(1 mark)

Write the next three numbers:

82, 92, 102

(1 mark)

Q3)



What is half of the above amount?

£1.94

(1 mark)

Q4) Complete the boxes for these pyramids with the numbers of faces, edges and vertices for each shape.



Faces

Edges

Vertices



Faces

Edges

Vertices

(3 marks)

Q5) John is making three-digit numbers with these cards.



What is the difference between the numbers that have highest value and lowest value?

252

(1 mark)

Q6) Mary thinks of a three-digit number made from 3 consecutive digits.

It has an odd digit.
It has two even digits.
The sum of the digits is 15.

What are the possibilities?

456 and 654

(1 mark)

Q7)

(a) When you double the double of a number what do you get?

- A number that is 4 times bigger than original
- Or Quadruple
- Or Fourfold

(1 mark)

(b) When you half the double of a number what do you get?

The original number

(1 mark)

Q8) Imagine rolling two normal dice.



(a) The **score** is the **total** number of dots facing up.

What is the highest possible score?

Answer: 12

(1 mark)

(b) You repeat the game.

This time the **score** is the **difference** in number of dots facing up.

What is the highest possible score?

Answer: 5

(1 mark)

Q9) A box contained some buttons. $\frac{1}{4}$ of them were green, and $\frac{1}{4}$ were orange and the rest were white.

If there were 48 white buttons, how many buttons were there altogether?

96

(1 mark)



Q10) A box contains 450 disks in all. Of them, 126 are music CDs and the rest are DVDs.

How many DVDs are in the box?

324

(1 mark)

Q11) Write the time first in **hours:minutes**, and then on the next line use the words “past” or “till”.

<p>a.</p>  <p><u>3</u> : <u>25</u></p> <p><u>25</u> past <u>3</u></p>	<p>b.</p>  <p><u>8</u> : <u>50</u></p> <p><u>50</u> past <u>8</u></p>
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Or for (b) :

10 minutes till 9

Accept 10 to 9

(4 x $\frac{1}{4}$ = 1 mark)

Q12) Vijay is 10 years old.

Jeyam is 2 years younger than Vijay.

Sam is 1 year older than Jeyam.

Who is the oldest child?

Answer: **Vijay**

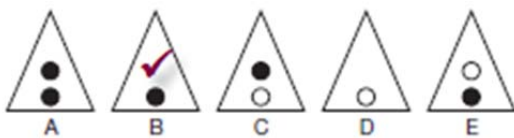
(1 mark)

Q13)



What comes next?

Tick the correct shape below.



(1 mark)

Q14) Consider these three figures with colours.



Figure A

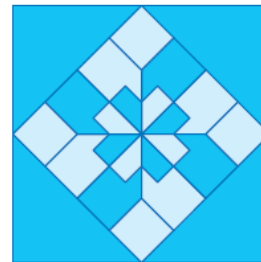


Figure B

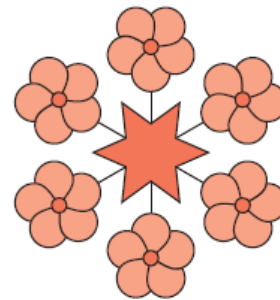


Figure C

(a) Which figure(s) has at least one line of symmetry?

Figure A

(1 mark)

(b) What effect does the colour have on your answer in part **(a)**?

It contributes to identifying the line of symmetry.

(1 mark)

Q15)

(a) Sam bought 6 ice cream cones for his family. He gave them to his mum, dad, 2 brothers and 2 sisters. They cost £0.99 each.

How much did he spend?

£5.94

(1 mark)

(b) Cathy spent 50p on Monday, 50p on Tuesday and £1 on Wednesday.

How much did she spend altogether?

£2

(1 mark)

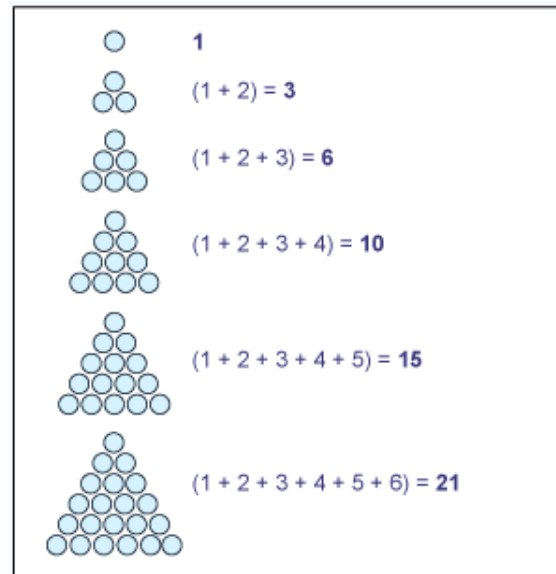
Could you work out:

how much money did she have left with her?

No

(1 mark)

Q16) Look at these patterns of triangles and numbers in **bold**.



(a) How many rows will be there in the next triangular pattern?

7

(1 mark)

(b) What **number** the next triangular pattern will generate?

28

(1 mark)

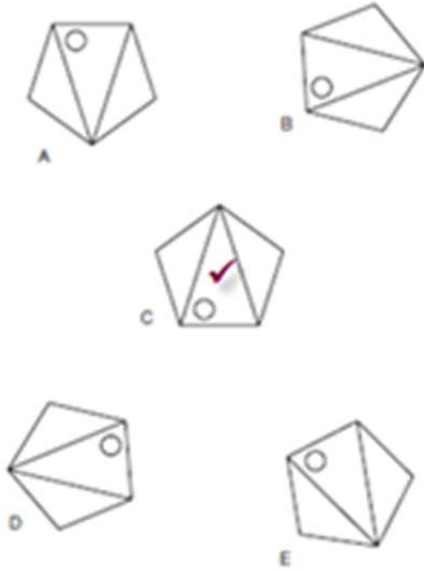
(c) If you add the numbers from two consecutive patterns what sort of thing will you notice?

They are square numbers

(1 mark)

Q17)

(a) Which shape is the **odd one out**? Tick it.



(1 mark)

(b) Which number is **odd**? Circle it.

34, **45**, 56, 98


(1 mark)

(c) Which number is **odd one out**? Circle it.

35, **53**, 45, 65

(1 mark)

Q18)

6						
5						
4						
3						
2						
1						
	A	B	C	D	E	F

Pirate Pete is at B3.

To find the treasure, he must move 3 squares to the right and 2 squares down.

Where is the treasure?

at E1

(1 mark)

Q19) The first **working day** of each month is the first Monday in that month.

(a) What is the date of the **fifth** working day in this January month?

January						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			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	

Answer: **10th January or 10**
(1 mark)

(b) Mohan's **fifth** birthday was on 18th May 2013. When was he born?

May						
Mo	Tu	We	Th	Fr	Sa	Su
		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		
2	10	18	25	31		

Answer: **18th May 2008**
($\frac{1}{2}$ mark for 2008)

(1 mark)

(c) There are two consecutive months with 31 days. Which are they?

Pair 1: **July** and **August**

Pair 2: **December** and **January**

(2 marks)

(d) The number of days from 1st of January to 31st of December is 365 days whereas the number of days from 31st of December to 1st of January is 1 day.

Senthil could not understand.

Explain.

The January in the second pair is the January of the following year.

(1 mark)

(e) Is 2400 a leap year?

Yes

(1 mark)

Q20)

Some of the sentences from (1) to (5) are **absurd**. Circle them.

(1) The length of the classroom is 15 kilograms.

(2) The capacity of my bathroom tub is 15 meters.

(3) My violet ribbon is 15 hours.

(4) I will finish this exam in 45 grams.

(5) Tomorrow is Sunday.

(1 mark)

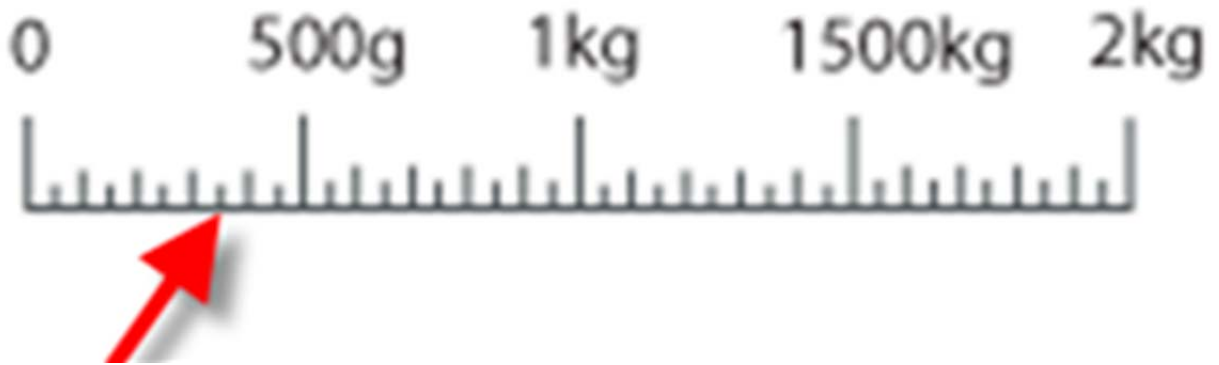
Some of the **measures** from (6) to (8) are **not practically sensible**. Circle them.

(6) My just born brother weighs 70 kg.

(7) The tubs Greeks used to take baths are usually 7 cubic centimetres large.

(8) I can finish this race in 45 minutes.

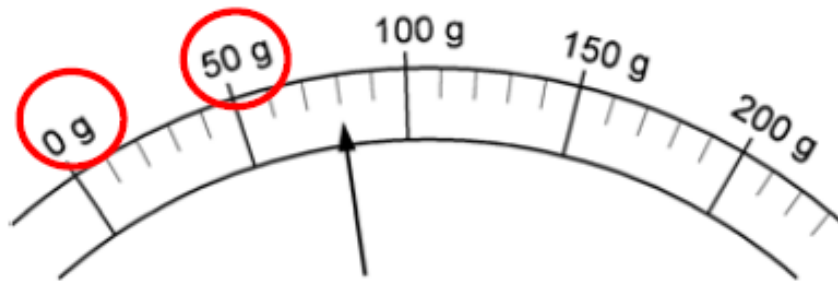
Q21) A piece of cheese has a mass of 350 grams. Mark an arrow on the scale to show the reading for 350 g. (1 mark)



(1 mark)

Q22)

(a)



Where does the arrow point to?

80 g

(1 mark)

(b) Sam got on the bus at half past 9. The bus ride took 45 minutes.

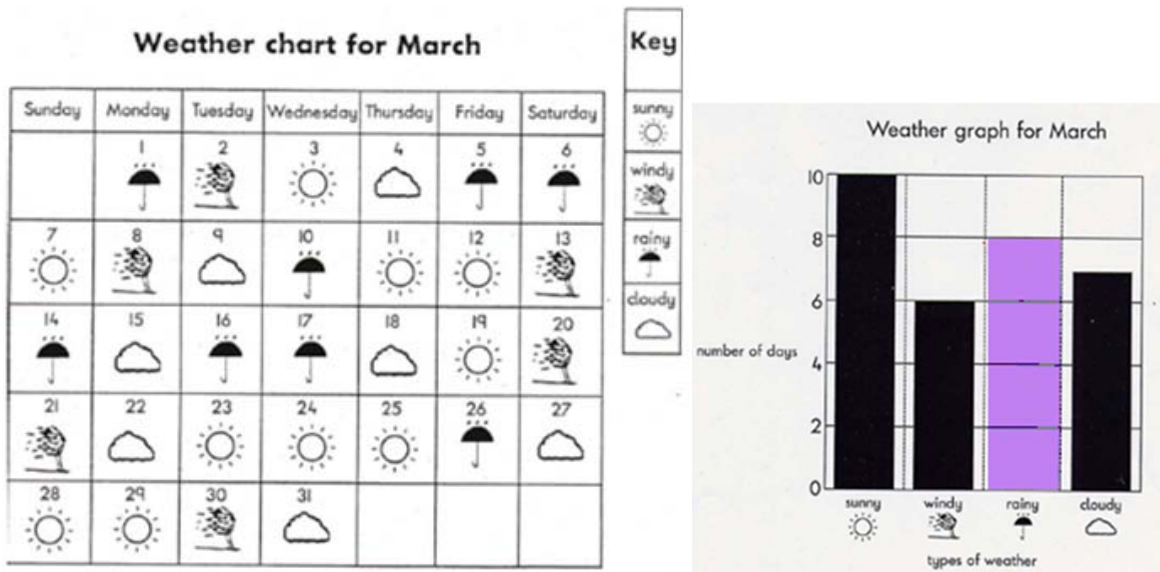
What time did he get off the bus?

Quarter past 10 or 10:15

(1 mark)

Q23)

(a) Using the weather data for March, complete the bar chart below.



(1 mark)

(b) Based on this year's weather data try to predict the weather for next March, assuming weather is seasonal.

Accept any sensible answer:

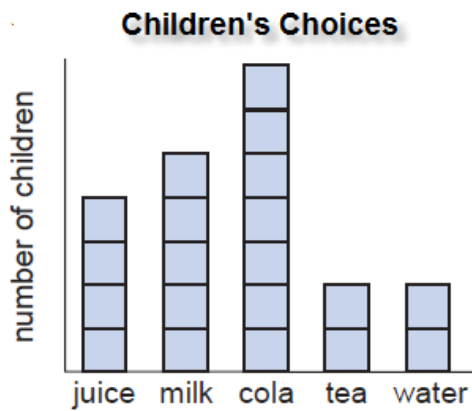
for example:

Most of the days will be sunny.

Least of the days will be windy.

(1 mark)

Q24) The following block graph is a result of a survey conducted in a class during summer 2015.



Using the information presented on the block graph answer the questions below.

(a) What do most children like to drink?

Cola

(1 mark)

(b) How many children did we ask?

We cannot answer as there is no key.

(1 mark)

(c) Would the information be different if we asked in the winter 2015?

Yes

(1 mark)

Why do you think so?

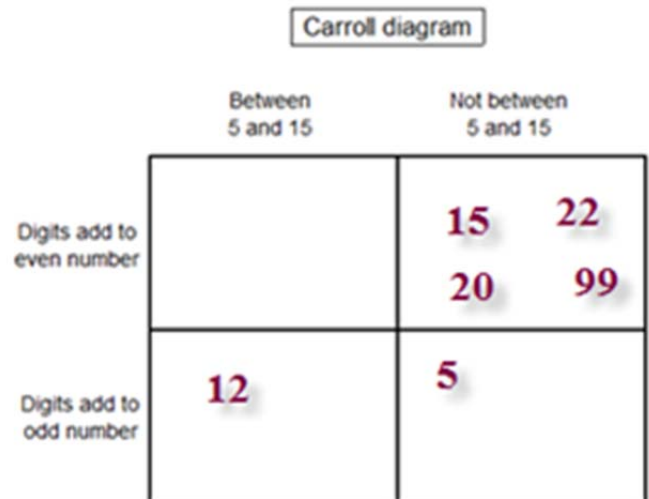
During winter people prefer hot drinks such as tea.

(1 mark)

Q25)

(a) Place the following numbers in the Carroll Diagram:

5, 15, 12, 22, 20, 99

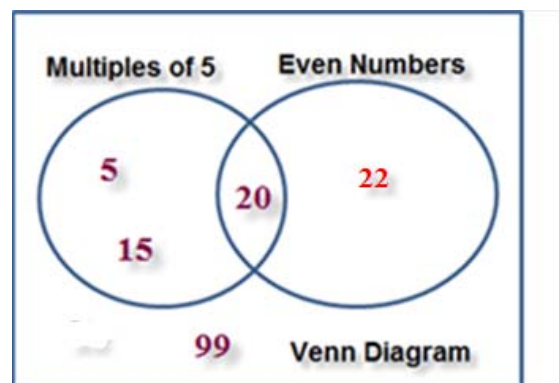


Correct column answer ½ mark

Correct row answer ½ mark

(1 mark)

(b) Now place same numbers in this Venn diagram below:



(1 mark)