

Do not turn over or open this booklet until told to do so

CEA

Common Entrance Assessment

Sample Paper

2021/22

Time: 1 Hour 10 minutes

Please fill in the following from your admission card:

Your Candidate Number _____

Your Assessment Centre _____

Your Date of Birth _____

Answer all 58 questions in this booklet

Association for Quality Education Limited

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MATHEMATICS

Page	Marks	Score	Check	
1	(4)			
2	(4)			
6	(3)			
7	(3)			
8	(2)			
11	(4)			
12	(4)			
16	(3)			
17	(3)			
18	(2)			
TOTAL 32				

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IN BY THE PUPIL

ENGLISH

Page	Marks	Score	Check	
3	(1)			
4	(4)			
5	(4)			
9	(1)			
10	(4)			
13	(2)			
14	(6)			
15	(2)			
19	(1)			
20	(4)			
21	(3)			
TOTAL 32				
TOTAL SCORE				

1. In the space below, write **thirty-two thousand and fifty** as a **number**.

2. There are **240 pupils** in a school. A **sixth** of the pupils **do not like** sport. How many **pupils like** sport? Write your answer in the space below.

_____ pupils

3. Look at the function machine below.



Use this function machine to complete the table below.

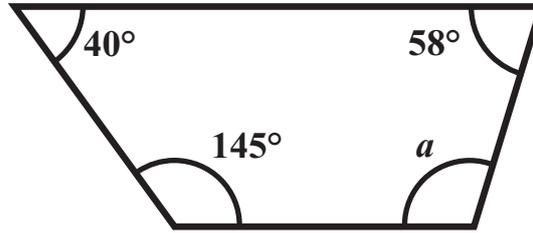
In	Out
18	2
53	
	4

4. A bouncy ball **costs 80p**. Ewan has **£5** to spend. He buys as many bouncy balls as he can with his money. How much **change** will Ewan have **left** from his **£5**? Write your answer, in **pence**, in the space below.

_____ pence

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in this column

5. Look at the **quadrilateral** below. Calculate the **size** of *angle a*. Write your answer in the space below.



angle a = _____^o

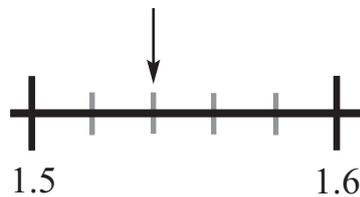
6. The **cost** of **5 litres** of petrol is **£6**. Calculate the **cost** of **500 ml** of petrol. Write your answer, in **pence**, in the space below.

_____ pence

7. **Each** side of a **rhombus** is **37.5 cm** long. Calculate the **perimeter** of the **rhombus**. Write your answer, in **metres**, in the space below.

_____ m

8. Look at the **scale** below.



At which **number** is the **arrow** pointing? Write your answer in the space below.

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Hero

I wanted to be a superhero,
soaring through the sky
like a bird at liberty
or an accelerating plane.

I wanted to combat crime
with my invincible superpowers,
conquer any adversary
with my strength of steel.

I wanted to save somebody
from a burning building,
blow as hard as I could
to freeze the fiery flames.

I wanted an extravagant costume
that everyone would admire,
a mask to conceal my identity
when I'm vigorously chasing burglars.

But now I've hung up that idea
like my imaginary cape,
because a small, good deed a day
makes a big difference.

9. The **two-word phrase** '*at liberty*' is used in **verse one**. Tick the **two-word phrase** below which is **opposite** in meaning to '*at liberty*'.

in captivity

of beauty

on high

without care

Do not write
in this column

14. **Fight** is the **present tense** of the word, **fought**. In the space provided, write the **present tense** of each **word** below. The first one has been done for you. **Be careful with your spelling.**

Do not write
in this column

Word	Present Tense
bought	<u>buy</u>
thought	_____
brought	_____
sought	_____

15. Look at the **four pairs** of words below. Only **one** of the spellings is **correct** in each **pair**. **Circle the correct** spelling in each pair.

secretery	secretary
discovery	discovary
machinery	machinary
necessery	necessary

16. Tori asked some people to choose their favourite type of TV programme. **Each person** chose **only one** type of programme. The table below shows the **fraction** of people who chose Documentary, Sport and Soap Opera.

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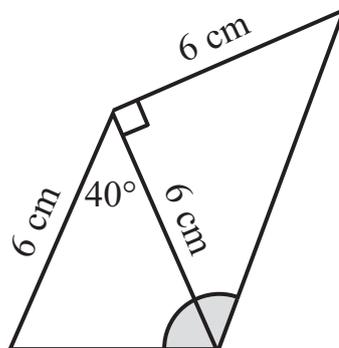
Type of TV programme	Fraction of people
Documentary	$\frac{2}{9}$
Sport	$\frac{4}{9}$
Quiz Show	
Soap Opera	$\frac{1}{9}$

What **fraction** of people chose **Quiz Show**? Write your answer in the space below.

17. Look again at **Q16**. Tori found that **35 people** chose **Soap Opera**. **In total**, how many **people** did Tori ask? Write your answer in the space below.

_____ people

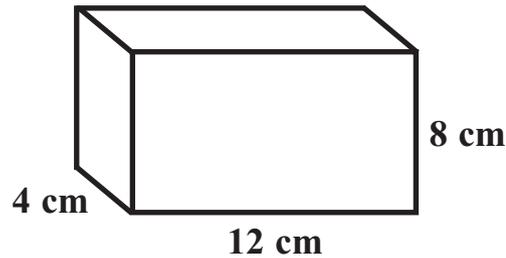
18. Look at the shape **below**. It is made up of **two isosceles** triangles.



Calculate the **size** of the **shaded angle**. Write your answer in the space below.

_____ °

19. Tom's box is a **cuboid**. It is **8 cm high**, **12 cm long** and **4 cm wide**.



Sam's box is also a **cuboid**. It has the **same height** as Tom's box. It is **half as long** and **twice as wide** as Tom's box. Calculate the **volume** of **Sam's** box. Write your answer in the space below.

_____ cm³

20. Look at the **calculation** below.

$$7.5 \times 16 = 120$$

Use **this** to help you complete the **calculation** below.
Write your answer in the space below.

$$7500 \times 0.16 = \underline{\hspace{2cm}}$$

21. Look at the **capital letters** below.

A E F H I N Z

- (a) Which **capital letter** has **only 2 vertical** lines and **1 horizontal** line?
Write your answer in the space below.

- (b) Which **capital letter** has **only 2 horizontal** lines and **no vertical** lines?
Write your answer in the space below.

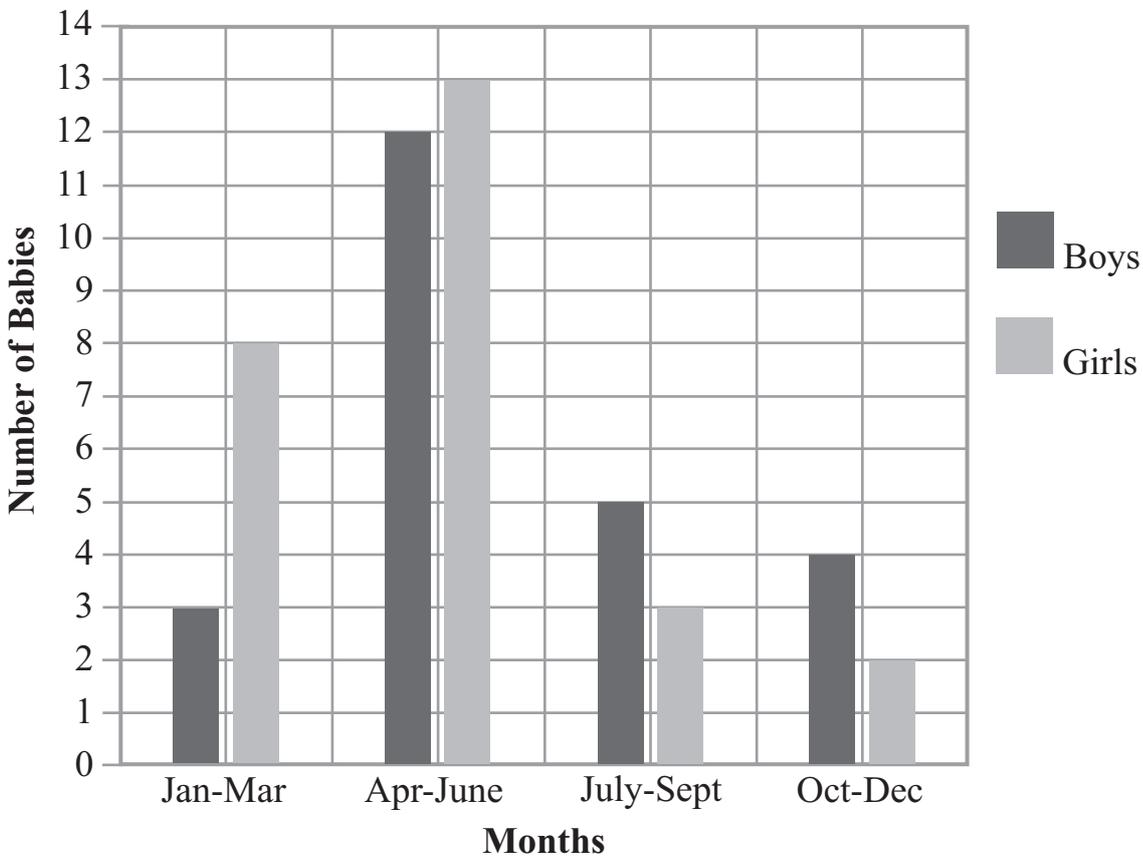
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22. How many **lines of symmetry** does a **rectangle** have? Tick the correct answer below.

- 0 lines 2 lines
 1 line 4 lines

Do not write in this column

23. The bar chart below shows the number of **baby boys** and **baby girls** born in a town during a year.



(a) How many **baby boys** were born during the year? Write your answer in the space below.

_____ baby boys

(b) **Fifty** babies were born during the year. What **fraction** of **babies** was born from **April to June**? Write your answer, in its **simplest form**, in the space below.

The passage below contains **four errors**. Also, a **word** has been **omitted** from **line 10**. Use this passage to answer the questions which follow it.

From Fortnite to the classroom: the floss dance craze sweeping schools.

Fidget spinning bottle-flipping and flossing! Teachers can find it hard (line 1)
to keep up with every new fad, so here's the low-down on the floss (line 2)
dance and how to deal with it in the classroom. Have your students (line 3)
been swinging their arms and hips from side to side in a bizarre (line 4)
rhythm. If you have yet to witness this dance, it won't be long before (line 5)
you do. The floss dance has quickly picked up momentum over the past (line 6)
few months and, for many teachers, it's now difficult to get through (line 7)
the day without seeing kids flossing in the classroom like the viral (line 8)
sensation, Backpack Kid, the fifteen-year-old creator of the floss dance. (line 9)
Since its performance on American TV, the floss dance _____ grown (line 10)
in popularity, spreading accross social media. It is now one of the (line 11)
celebratory dances on this years other big trend – the multiplayer (line 12)
online game, Fortnite. So rather than fighting the trends, some teachers (line 13)
are taking a different approach. One teacher in Manchester, England, (line 14)
argues that if you can't beat them, join them. He posted a video on his (line 15)
Facebook page of his students teaching him the dance, and it quickly (line 16)
gained thousands and thousands of views on social media. (line 17)

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24. Each line of the passage is numbered. Look at the **four words** below. **One** of these words can be inserted meaningfully into the blank space in **line 10**. **Circle** the correct word below.

is

have

has

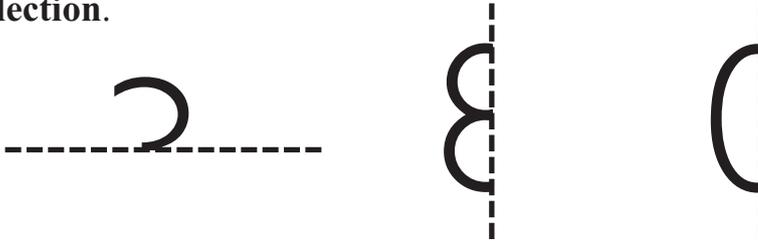
had

29. Look at the **calculation** below.

$$6000 \div \square = 60$$

Which **number** must be written in the box to make the calculation **true**?
Write your answer in the space below.

30. Look at the three shapes below. Each shape is **reflected** in a **mirror line** as shown. A **number** is formed by **combining the shape with its reflection**.



Calculate the **product** of the **three numbers** formed. Write your answer in the space below.

31. A washing machine took **100 minutes** to wash clothes. The washing machine **finished** at **4.15 pm**. At what **time** did the washing machine **start**? Write your answer, using the **24-hour clock**, in the space below.

32. A number is a **palindrome** if it looks **the same backwards as forwards**. For example, the **3-digit** numbers **545** and **616** are **palindromes**. What is the **largest 3-digit palindrome** which is **also an even number**? Write your answer in the space below.

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33. Look at the statements below. Tick each statement **true** or **false**.

True **False**

The **sum** of two **acute** angles is **always** an **acute** angle.

The **sum** of two **acute** angles is **never** an **obtuse** angle.

34. What is the **value** of $2^3 \times 5$? Tick the correct answer below.

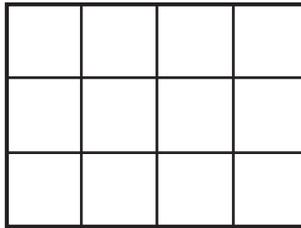
25

40

30

45

35. The shape below is made up of **12 identical squares**. The **sides** of **each square** are **3 cm** long.



Theo and Laura **shade in** this shape **in the following order**:

Theo shades in $\frac{1}{4}$ of the shape.

Laura shades in $\frac{1}{3}$ of the **remaining unshaded** shape.

Calculate the **area** of the shape that is **not shaded in**. Write your answer in the space below.

_____ cm²

36. At the beginning of **2020**, Rachel was **12 years old** and her sister Monica was **15 years old**. At the beginning of which **year** will the **total** of Rachel's age and Monica's age be **37 years**? **Circle** the correct answer below.

2023

2025

2028

2030

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To My Valentine

Roses are red, like the fancy frilly bow on top of your head,
violets are blue, (I suppose they're more purple, don't you?),
sugar is sweet and so are you, especially when you share your Haribo.

I know purple is your favourite colour.
It is the worn-down, short one in your crayon box,
just a little stump and it is only half-term.

You are not too keen on the cola-bottle sweets,
but I notice that the little rings are gone before sharing,
so it's those (particularly the green and white) you love to eat.

I'm in your reading group, sit at your table.
I guess the teacher believes we're similarly 'able';
we often come joint first for knowing our tricky times-tables.

I shall miss you when I go
to the all-boys' school just down the road.
I wonder if you'll miss me, your secret Valentine since Primary 3?

37. The **word** '*especially*' is used in **verse one**. Which **word** in **verse three** is similar in meaning to '*especially*'? Write the **best** answer in the space below.

38. Which **four-word phrase** in **verse three** tells us that the girl **doesn't like** cola-bottle sweets? Write the **best** answer in the space below.

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39. Based on your reading of **verse two**, how does the poet know that the girl's **favourite colour is purple**? Tick the **best** answer below.

- She loves Parma Violet sweets.
- She owns only purple crayons.
- She always wears a purple hair bow.
- She uses her purple crayon most.

40. The words **group**, **guess**, **often** and **tricky** are used in **verse four**. Tick the correct box to show whether each one has been used in this verse as a **noun**, **verb**, **adjective** or **adverb**.

	Noun	Verb	Adjective	Adverb
group				
guess				
often				
tricky				

41. Which **word** in the **last verse** tells us that the poet has **never told** the girl that he likes her? Write the **best** answer in the space below.

42. Based on your reading of the **whole poem**, tick the **best two adjectives** below which describe the poet.

- greedy clever
- observant impulsive

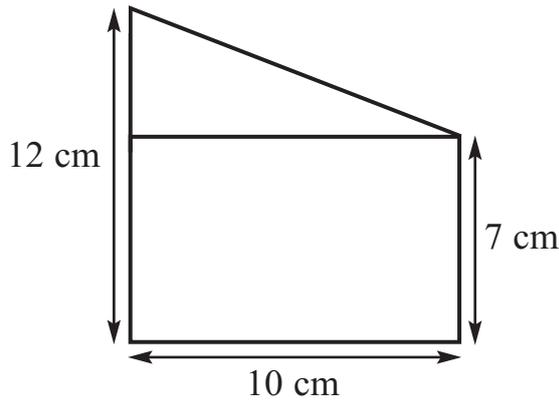
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43. The **words** below are **in the poem**. Each **word** contains an **apostrophe**. In the space provided, write **two words** which **mean the same** as each **word** below. The first one has been done for you. **Be careful with your spelling**.

Verse	Word	
One	they're	<u>they are</u>
Three	it's	_____
Four	I'm	_____
Four	we're	_____
Five	you'll	_____

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44. Look at the shape below. It is made up of a **rectangle** and a **right-angled triangle**.



Calculate the **area** of the shape. Write your answer in the space below.

_____ cm²

45. Look at the number pattern below.

13 50 87 124 _____

What is the **next number** in this pattern? Write your answer in the space above.

46. Look at the sentence below. The **end** of the sentence is **missing**.

The faces of a triangular prism are _____

Which statement below can be inserted into the above sentence to make it **true**? Tick the correct answer below.

2 triangles and 3 rectangles.

3 triangles and 2 rectangles.

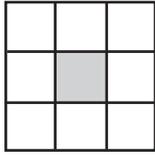
4 triangles and 1 rectangle.

1 triangle and 4 rectangles.

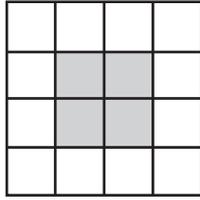
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47. Look at the **patterns** of **grey tiles** and **white tiles** below.

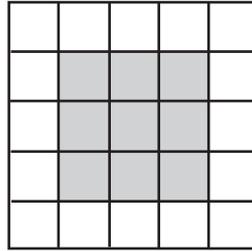
Pattern 1



Pattern 2



Pattern 3



Pattern 2 has **4 grey tiles** and **12 white tiles**.

Gillian has **14 grey tiles** and **17 white tiles**. She wants to make **Pattern 4**. How many **more grey tiles** and **white tiles** will she need to make **Pattern 4**? Write your answers in the spaces below.

_____ grey tiles _____ white tiles

48. Sarah is facing **North-East**. She turns **clockwise** through **two and a half revolutions**. She then turns **anti-clockwise** through **a quarter of a revolution**. In which **direction** does Sarah **now** face? Tick the correct answer below.

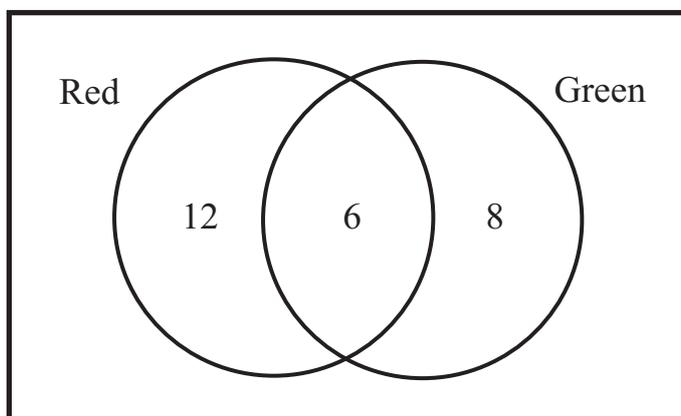
North-East	<input type="checkbox"/>	North-West	<input type="checkbox"/>
East	<input type="checkbox"/>	West	<input type="checkbox"/>
South	<input type="checkbox"/>	North	<input type="checkbox"/>
South-East	<input type="checkbox"/>	South-West	<input type="checkbox"/>

49. A **pizza** costs **£7.50** at a pizza takeaway. There is a **delivery charge** of **£1.80 per mile** from the pizza takeaway. Molly orders **four pizzas** to be **delivered** to her house. Molly's house is **3 miles** from the pizza takeaway. What is the **total cost** of her order? Write your answer in the space below.

£ _____

Do not write
in this column

50. There are **30 pupils** in Miss Smith's class. Each pupil was asked if they liked **red** apples or **green** apples. The results are shown in the **Venn Diagram** below.



- (a) How many pupils liked **only red** apples? Write your answer in the space below.

_____ pupils

- (b) How many pupils **did not** like **red or green** apples? Write your answer in the space below.

_____ pupils

51. Look at the list of numbers below.

5 20 40 80 160

- (a) Chris **multiplies two numbers** from this list. Which **two numbers** should he choose to get an answer **between 1500 and 1700**? Write your answers in the spaces below.

_____ and _____

- (b) Julie **divides two numbers** from this list. What is the **largest possible answer** she could get when she **divides** two numbers? Write your answer in the space below.

Do not write in this column

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--	--

The Cup

It all came down to penalties. No one had predicted that the nil-all score on the final whistle would lead to such a nail-biting conclusion to the season. As goalie, I felt I had the weight of our whole team on my shoulders.

I took my stance: arms wide, legs wide, filling the space but ready to spring. Instinct told me that their first player was going for the right corner of the net. As I moved to redirect the ball, it hit the bar and bounced back. His head hung low, as the crowd gasped and exhaled.

Stepping away from the goals, I felt my heart rate return to normal. The drizzling rain had gradually become heavier. I could feel my top, cold and wet against my skin. Scanning the touchlines, I could barely distinguish one parent from another, as the supporters stood with hoods or umbrellas obscuring my view. I hoped Dad was still watching and hadn't wandered off to answer his mobile. I spotted him on the touchline as I stepped forward. My heart rate accelerated again. My gloves felt tight as my sweating hands expanded.

Their next player stepped up. The suspense bubbled over into shouts from the crowd. I don't know why I glanced at the supporters on the touchline. I'm not sure if it was her voice on the wind or the brightly-coloured umbrella that drew my attention away from my task. It was like time stood still: the ball, the rain, my opponent's foot - everything seemed to freeze. Frozen only for a split second, but a split second was long enough for the ball to curve into the net.

I was deaf to the groans from my team. It barely registered that I had let in a goal. I had thought this day would never come. Was she really there?

52. The **phrase** '*a nail-biting conclusion*' is used in **paragraph one**. What is the meaning of '*a nail-biting conclusion*'? Tick the **best** answer below.

a predictable ending

a confusing ending

an exciting ending

an obvious ending

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