

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

# CEA

## Common Entrance Assessment

### Paper 1

**Saturday 14 November 2009**

**Time: 1 Hour**

**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**

NOT TO BE FILLED IN BY THE PUPIL			
MATHEMATICS			
Page	Marks	Score	Check
1	(4)		
2	(3)		
3	(1)		
7	(2)		
8	(2)		
9	(2)		
10	(2)		
13	(3)		
14	(5)		
18	(3)		
19	(2)		
20	(3)		
TOTAL 32			

NOT TO BE FILLED IN BY THE PUPIL			
ENGLISH			
Page	Marks	Score	Check
4	(3)		
5	(5)		
6	(3)		
11	(1)		
12	(4)		
15	(1)		
16	(6)		
17	(1)		
21	(2)		
22	(6)		
TOTAL 32			
TOTAL SCORE			

1. The 10 numbers below show the number of electronic gadgets in the homes of 10 primary school pupils.

~~5~~ ~~2~~ ~~8~~ ~~3~~ ~~8~~ ~~3~~ ~~5~~ ~~7~~ ~~7~~ ~~2~~ = 50

What is the **mean** (average) number of gadgets?

Write your answer in the space below.

$$50 \div 10$$

5 gadgets

2. Look again at the 10 numbers.

What is the **range**? *8 - 2 difference between biggest and smallest numbers*

Write your answer in the space below.

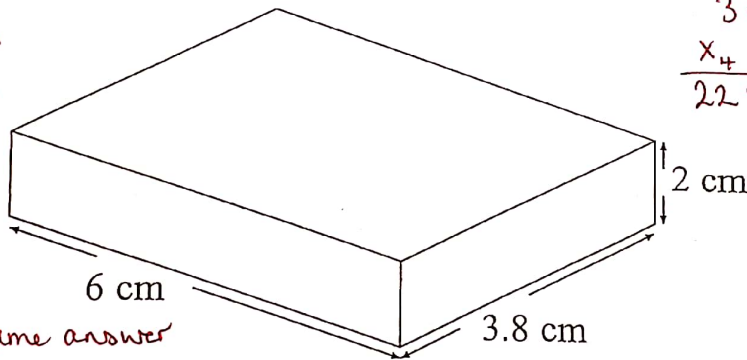
6 gadgets.

3. The **cuboid** below is 6 cm by 3.8 cm by 2 cm.

$$\text{Volume} = l \times b \times h$$

*Doesn't matter in which order you multiply*

*e.g.  $3.8 \times 6 \times 2$   
or  $2 \times 3.8 \times 6$*



$$\begin{array}{r} 3.8 \\ \times 6 \\ \hline 22.8 \end{array} \quad \begin{array}{r} 22.8 \\ \times 2 \\ \hline 45.6 \end{array}$$

*Will always have same answer*

What is the **volume** of this cuboid? Write your answer in the space below.

45.6 cm<sup>3</sup>

- 4.(a) What is 7:52 am as a 24 hour clock time? Write your answer in the space below.

07:52

- (b) What is 7:52 pm as a 24 hour clock time? Write your answer in the space below.

19:52

both

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1

1

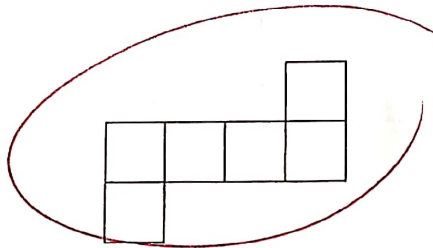
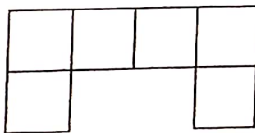
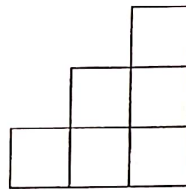
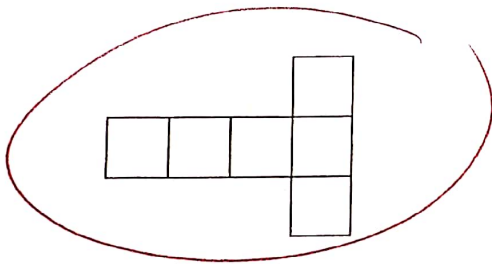
1

5. Complete the table below by putting a fraction or a percentage in each of the four empty boxes.

Percentage	$33\frac{1}{3}\%$	$50\%$	$75\%$	$25\%$	$20\%$
Fraction	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{5}$

All 4

6. A net of a cube can be folded to make a cube. Look at the four figures below. Circle the two figures that are nets of a cube.



both

7. Look at the two calculations below. Complete each calculation by finding the missing number. Write your answers in the spaces below.

$$1642 - 647 = \underline{995}$$

$$\begin{array}{r} 1642 \\ - 647 \\ \hline 995 \end{array}$$

$$1487 + \underline{155} = 1642$$

$$\begin{array}{r} 1487 \\ + 155 \\ \hline 1642 \end{array}$$

both

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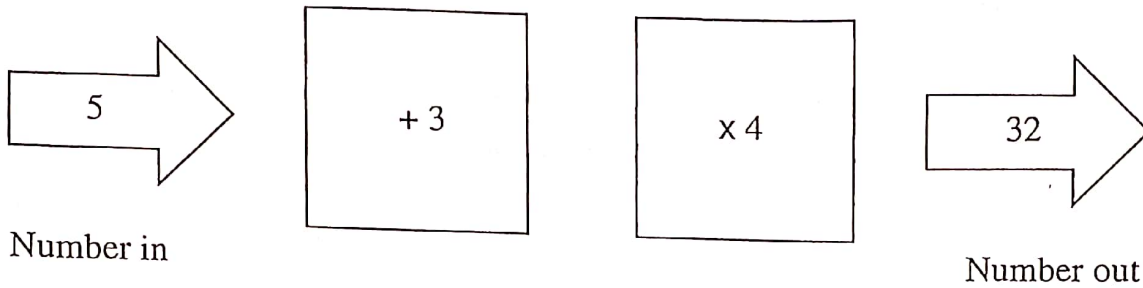
1

1

1

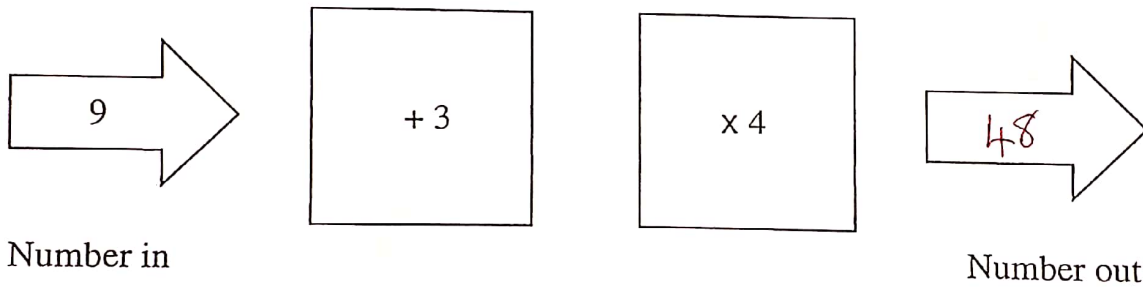
8. Look at the function machine below.

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in this column

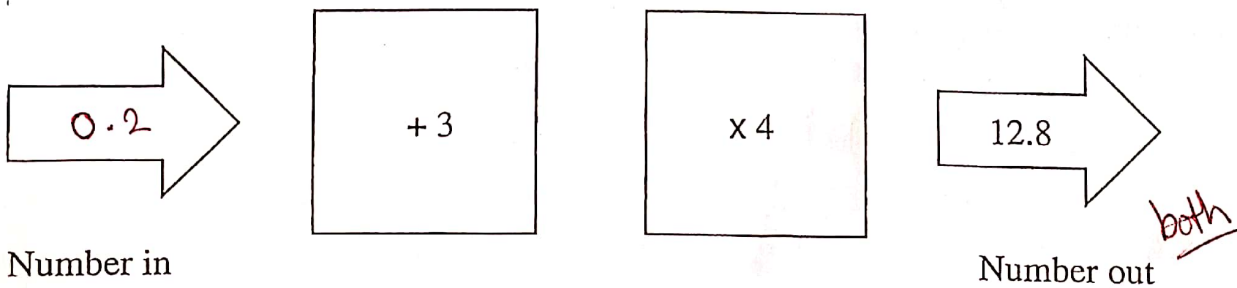


Complete the two function machines below by writing the correct number in the blank arrow.

(a)



(b)



to go back to the start, you need to reverse the function machine

$$12.8 \div 4 = 3.2 - 3 = 0.2$$

$$\begin{array}{r} 03.2 \\ 4 \overline{) 12.8} \end{array}$$

Homework! Oh, Homework!

Homework! Oh, homework! 1  
I hate you! You stink!  
I wish I could wash you  
away in the sink,  
if only a bomb  
would explode you to bits.  
Homework! Oh, homework!  
You're giving me fits.

I'd rather take baths 2  
with a man-eating shark,  
or wrestle a lion  
alone in the dark,  
eat spinach and liver,  
pet ten porcupines,  
than tackle the homework  
my teacher assigns.

Homework! Oh, homework! 3  
You're last on my list,  
I simply can't see  
why you even exist,  
if you just disappeared  
it would tickle me pink.  
Homework! Oh, homework!  
I hate you! You stink!

Jack Prelutsky

Do not write  
in this column

9. Three animals are mentioned in the poem. Write their names in the spaces below.

Shark      lion      porcupine

All 3 = 2  
2 = 1

1  
1

10. Which of these words **best** describes the poem? Tick  the best answer.

- serious
- humorous  funny
- depressing
- exciting

1

11. The four words **teacher**, **reminds**, **carefully** and **difficult** are used in the sentence below.

**My teacher always reminds us to think carefully before answering difficult homework questions.**

Tick  the correct box in the table below to show which of the four words is used as a **verb**, a **noun**, an **adjective** or an **adverb** in the sentence.

	verb	noun	adjective	adverb
teacher		✓		
reminds	✓			
carefully				✓
difficult			✓	

All 4 = 2  
2 or 3 = 1

12. Write the **past tense** of the following words in the spaces below. Be careful with your spelling. The first has been done for you.

assign                      assigned

wash                         washed

explode                     exploded

give                         gave

stink                         stank

Answers are not in the poem.  
Spelling must be exactly right.

All 4 = 2  
2 or 3 = 1

13. Look at the **last verse** of the poem. Find the **phrase of four or five words** that is closest in meaning to the words: **I would be delighted**.

Write the phrase in the space below.

(it) would tickle me pink

Do not write in this column

1	1
1	1
1	1

14. The last line of the second verse of the poem uses the word **assigns**. Look at the four statements below. Tick  the box opposite the correct statement. Only **one** of the statements is correct.

Do not write in this column

When my teacher **assigns** a homework, it means that:

- she writes her name at the end of the homework
- she keeps a record of each pupil's homework mark
- she asks each pupil to mark their partner's homework
- she tells the pupils what they must do for homework

1	
1	
1	
(3)	

15. Find the **word** in the poem closest in meaning to each of the following. Write your answer in the space below.

having a nasty smell stink

blow up explode

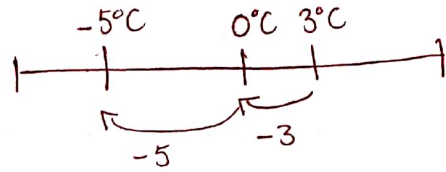
vanished from sight disappeared (not disappear)

All 3 = 2 marks  
2 = 1 mark

16. (a) The temperature in Belfast is  $3^{\circ}\text{C}$ .  
The temperature in Glasgow is  $8^{\circ}\text{C}$  lower than in Belfast.

What is the temperature in Glasgow?  
Write your answer in the space below.

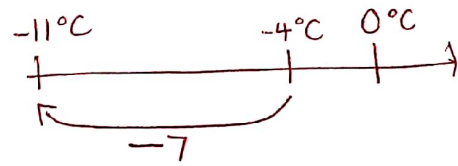
    -5      $^{\circ}\text{C}$



- (b) The temperature in Edinburgh is  $-4^{\circ}\text{C}$ .  
The temperature in Dresden is  $7^{\circ}\text{C}$  lower.

What is the temperature in Dresden?  
Write your answer in the space below.

    -11      $^{\circ}\text{C}$

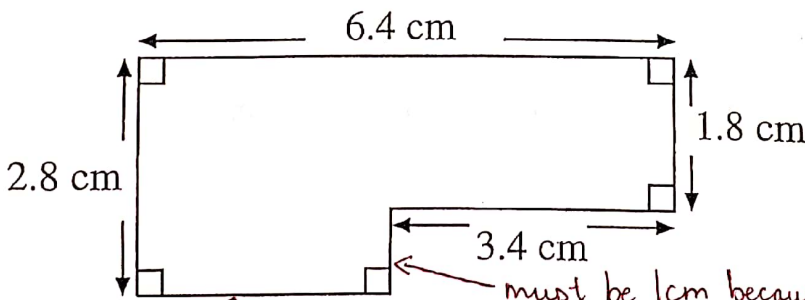


both

Do not write  
in this column

1

17. Look at the shape below.



must be 3 cm because  $3.4\text{ cm} + 3\text{ cm} = 6.4\text{ cm}$

must be 1 cm because  $1.8\text{ cm} + 1\text{ cm} = 2.8\text{ cm}$

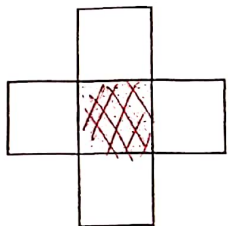
distance around outside edge  
Find the **perimeter** of the shape. Write your answer in the space below.

    18.4     cm

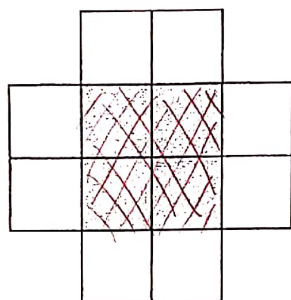
1

18. Look at the sequence of three patterns below. Each pattern is made up of shaded and unshaded squares. For example, **pattern 2** has **4 shaded** squares and **8 unshaded** squares.

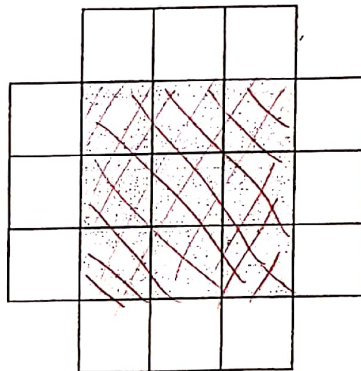
Pattern 1



Pattern 2



Pattern 3



Look at the table below for the number of **unshaded** squares in each pattern.

Pattern	1	2	3
Unshaded squares	4	8	12

*Handwritten notes: A bracket above the numbers 1, 2, and 3 spans from the first to the second column, and another bracket above 2, 3, and 4 spans from the second to the fourth column. Both brackets are labeled 'x4'.*

How many **unshaded** squares are there in **pattern 7**? Write your answer in the space below.

28 unshaded squares

19. Look at the table below for the number of **shaded** squares in each pattern.

Pattern	1 <sup>2</sup> 1x1	2 <sup>2</sup> 2x2	3 <sup>2</sup> 3x3
Shaded squares	1	4	9

*Handwritten notes: A bracket above the numbers 1, 2, and 3 spans from the first to the third column. A bracket above the numbers 1, 4, and 9 spans from the first to the third column.*

How many **shaded** squares are there in **pattern 8**? Write your answer in the space below.

64 shaded squares

Do not write in this column



22. Write a number in the box below that makes the statement true.

15 is 25 % of 60

$$15 \text{ is } \frac{1}{4} \text{ of } 60$$

$$\frac{15}{4} = 3.75$$

$$\frac{1}{4} = 25\%$$

23. An ice skater spins on the ice. She turns  $3\frac{1}{2}$  times before stopping. How many degrees has she turned? Write your answer in the space below.

1260 °

$$1 \text{ turn} = 360^\circ$$

$$\frac{1}{2} \text{ turn} = 180^\circ$$

$3\frac{1}{2}$  turns

$$\begin{array}{r} 360 \\ \times 3 \\ \hline 1080 \end{array}$$

$$\begin{array}{r} 1080 \\ + 180 \\ \hline 1260 \end{array}$$

Do not write  
in this column

1	
1	

The passage you are about to read contains five errors. Read the passage and then answer the questions that follow it.

Do not write  
in this column

**A missed bin collection**

Dear Sir,

I am a schoolboy and this is the first letter I've ever written. (line 1)  
 I am writing to ask you to collect our bin on the day you say (line 2)  
 you will. Last week our bin wasn't collected. This made (line 3)  
 my mum furious and she is more strict on days when shes (line 4)  
 furious. (line 5)

A foul smell is coming from our bin. My mum tells me that (line 6)  
 bins can be a health hasard and that I shouldn't play near (line 7)  
 smelly bins. She says that if bins are pushed over they (line 8)  
 can attract rats. Can you see my problem. I want to play (line 9)  
 in our alley, but I don't want to disobey my mum. (line 10)

I'm writing this letter because my mum's to polite to complain. (line 11)  
 But my uncle Peter says, "You don't get if you don't ask" and (line 12)  
 so I'm asking you to send someone to collect our bin. If you (line 13)  
 do as I ask, I promise I'll never write to you again. (line 14)

Yours faithfully,  
 Gerard Hiddick

24. Each line of the passage is numbered. A question mark is needed instead of a full stop on one line of the passage. Tick  the number of the line in which the question mark is needed.

- line 6
- line 8
- line 9  problem?
- line 13

--	--

25. In one line of the passage a comma has been used incorrectly. A full stop rather than a comma should have been used. Tick  the number of the line in which this error was made.

- line 3  *will.*
- line 10
- line 12
- line 14

26. There is an apostrophe missing from one of the words in the passage. Tick  the number of the line containing the word with the missing apostrophe.

- line 2
- line 4  *she's*
- line 8
- line 12

27. A word has been used incorrectly in the passage. Tick  the number of the line containing the incorrect word.

- line 1
- line 6
- line 10
- line 11  *too*

28. There is a spelling error in one of the lines of the passage. Tick  the number of the line containing the spelling error.

- line 5
- line 7  *hazard*
- line 9
- line 12

Do not write in this column

1

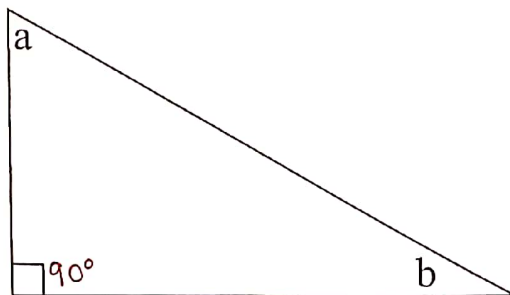
1

1

1

angles in a triangle = 180°

29. Look at the right-angled triangle below.



Tick  the statements below that are true:

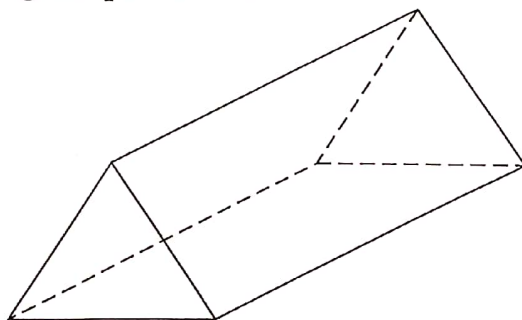
angle **a** and angle **b** add to make 180°

angle **a** and angle **b** are both acute angles

angle **a** and angle **b** add to make 90°

both

30. Look at the triangular prism below.



Write the correct number in each of the spaces below.

The triangular prism has 5 flat sides faces.

The triangular prism has 6 corners vertices.

both

31. Look at the numbers below.

Tick  the number in which 3 stands for 3 units.

400.03

403.2

502.3

231.2

HTU.th

Do not write in this column

1

1

1

1 metre = 100cm  
 so 20cm = 1m ÷ 5

32. Work out the cost of 20 cm of ribbon at £3.80 per metre.  
 Write your answer in the space below.

$$\begin{array}{r} \pounds 0.76 \\ 5 \overline{) 3.80} \end{array}$$

76 pence

not 0.76 or £0.76

Do not write  
 in this column

33. A custard cream weighs 24 grams. Only  $\frac{1}{3}$  of 24g = 8g of its weight is cream. Only  $33\frac{1}{3}\%$  of its weight is cream.  
 How many grams of cream are in 50 custard creams?  
 Write your answer in the space below.

1 custard cream = 8g of cream  
 50 = 8 x 50

400 g

34. Fergus has to fill bags with sand from a container. The container holds  $333\frac{1}{3}$  kg of sand. Each bag holds  $\frac{1}{4}$  kg of sand. How many full bags of sand can Fergus get from the container? Write your answer in the space below.

1 bag = 250g  
 4 bags = 1000g / 1kg  
 12 bags = 3kg + 1 more bag = 3250g

13 bags

35. Four types of bottle are used to store wine.

1 litre = 1000ml

Bottle A holds 1.58 litres. 1580 ml

Bottle B holds 1.7 litres. 1700 ml

Bottle C holds 742 ml. 742 ml

Bottle D holds 1628 ml. 1628 ml

Arrange the bottles in order from the bottle that holds the smallest amount of wine to the bottle that holds the greatest amount. Write a letter in each of the spaces below to show the correct order of the bottles. The bottle holding the smallest amount of wine has been done for you.

C (smallest)      A      D      B (greatest)

36. A family goes on a long journey. Their car uses 9.7 litres of petrol each hour. If the family travels for 8 hours, how many litres of petrol does the car use? Write your answer in the space below.

$$\begin{array}{r} 9.7 \\ \times 8 \\ \hline 77.6 \end{array}$$

77.6 litres

**The Gingerbread Man**

Do not write  
in this column

- 1 The gingerbread man gave a gingery shout:  
"Quick! Open the oven and let me out!"  
He stood up straight in his baking pan.  
He jumped to the floor and away he ran.  
"Catch me," he called, "if you can, can, can."
- 2 The gingerbread man met a cock and a pig  
And a dog that was brown and twice as big  
As himself. But he called to them all as he ran,  
"You can't catch a runaway gingerbread man."
- 3 The gingerbread man met a reaper and sower.  
The gingerbread man met a thresher and mower;  
But no matter how fast they scampered and ran  
They couldn't catch up with a gingerbread man.
- 4 Then he came to a fox and he turned to face him.  
He dared Old Reynard to follow and chase him;  
But when he stepped under the fox's nose  
Something happened. What do you s'pose?  
The fox gave a snap. The fox gave a yawn,  
And the gingerbread man was gone, gone, GONE.

**Rowena Bennett**

37. Find the **word** that goes at the end of the eight words below to make a true sentence of nine words.

**The gingerbread man spends much of the poem**

Tick  the best answer.

- singing
- cooking
- eating
- running

Do not write in this column	
1	
1	

38. What is a gingerbread man? Tick  the best answer.

- a person
- a biscuit
- an animal
- a reaper

39. These five words are not in alphabetical order:

**dotty      discovery      discrete      discontinue      catalogue**

Write the words in alphabetical order in the space below. The first word has been done for you.

catalogue discontinue discovery discrete dotty All = 2  
↳ mistake = 1

40. In the final verse the word **s'pose** is used. Write the word without the apostrophe and using all its letters. Write your answer in the space below.

Suppose      must be spelled correctly

41. Find the word in the third verse of the poem that means **dashed about playfully**.

Write your answer in the space below.

Scampered

42. Which line of the final verse of the poem tells us that the gingerbread man challenged the fox to chase him? Write the line in the space below.

He dared Old Reynard to follow and chase him;

Do not write in this column	
1	
1	
1	
1	
1	
1	
(6)	



44. Look at the four statements below. Tick  each statement true or false.

	True	False
all four sides of a square have the same length	<input checked="" type="checkbox"/>	<input type="checkbox"/>
the three angles of a triangle add up to <del>360°</del> 180°	<input type="checkbox"/>	<input checked="" type="checkbox"/>
all the angles of an isosceles triangle are the same 2 angles	<input type="checkbox"/>	<input checked="" type="checkbox"/> All 4
opposite sides of a parallelogram are equal in length	<input checked="" type="checkbox"/>	<input type="checkbox"/>

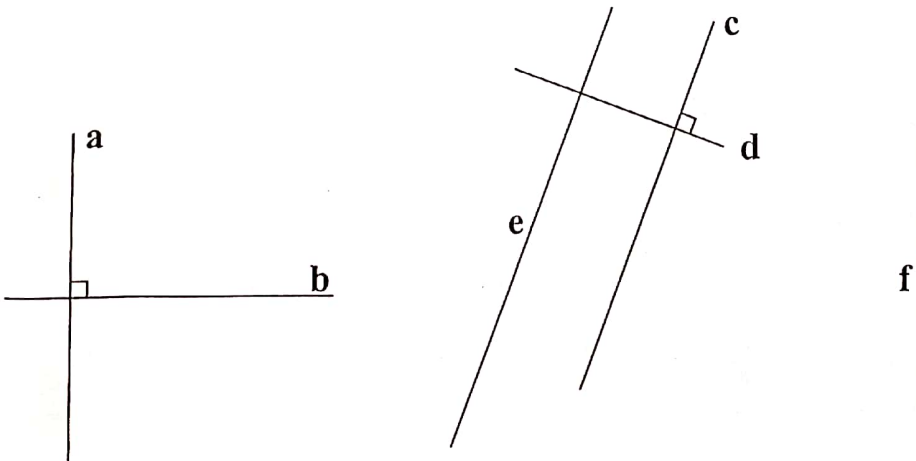
45. Look at the five fractions below *To compare fractions, they need to have a common (same) denominator*

$$\frac{5}{12} = \frac{15}{36} \quad \frac{1}{36} \quad \frac{2}{18} = \frac{4}{36} \quad \frac{4}{9} = \frac{16}{36} \quad \frac{5}{6} = \frac{30}{36}$$

Claire writes these fractions **in order** from smallest to largest. Which fraction will be the **middle fraction** when Claire writes them in order? Write your answer in the space below.

$\frac{5}{12}$

46. Look at the lines marked a, b, c, d, e and f drawn in the figure below. Line c is **parallel** to line e, and line a is **parallel** to line f.



*parallel = equal distance apart all the way along their length*  
*perpendicular = lines which meet (or will meet) at a right angle (90°)*

Tick  each of the statements below true or false.

	True	False
line a is <b>perpendicular</b> to line b	<input checked="" type="checkbox"/>	<input type="checkbox"/>
line a is <b>parallel</b> to line e	<input type="checkbox"/>	<input checked="" type="checkbox"/> All 4
line d is <b>perpendicular</b> to line e	<input checked="" type="checkbox"/>	<input type="checkbox"/>
line b is <b>perpendicular</b> to line f	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Do not write in this column	
1	
1	
1	
(3)	

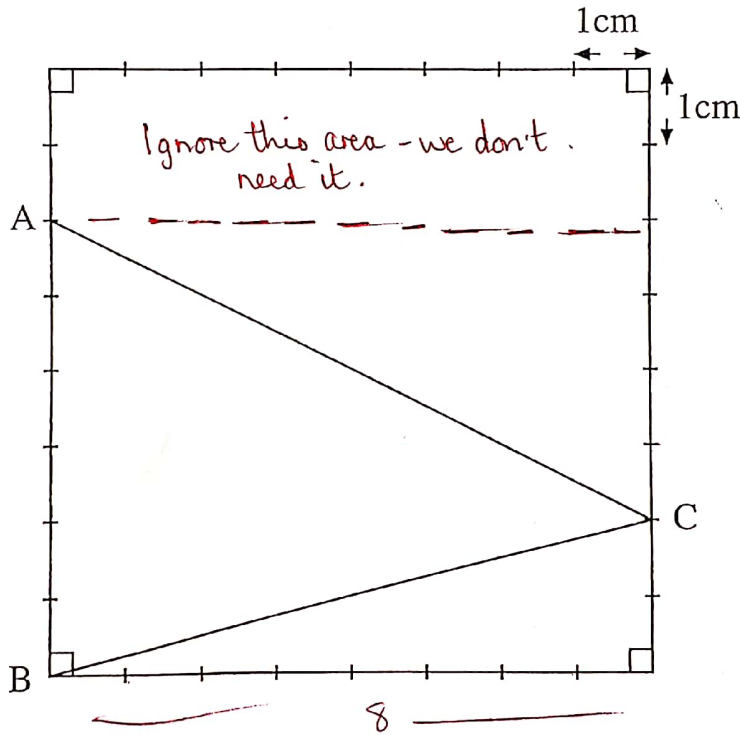
47. Michael and Susan agreed to share the cost of a video game. The game cost £27.60. Michael paid 25% of the cost. How much did Susan pay? Write your answer in the space below.

$25\% = \frac{1}{4}$   
 $06.90$   
 $4 \overline{) 27.60}$   
 so Michael paid £6.90

$27.60$   
 $- 6.90$   
 $\hline$   
 $£ 20.70$

£ 20.70

48. Look at the square below. Each of its sides is 8 cm long. A triangle ABC is drawn in the square.



Area of rectangle  
 $= 6 \times 8 = 48 \text{ cm}^2$   
 Area of triangle  
 $= 48 \div 2 = 24 \text{ cm}^2$

What is the area of the triangle ABC? Write your answer in the space below.

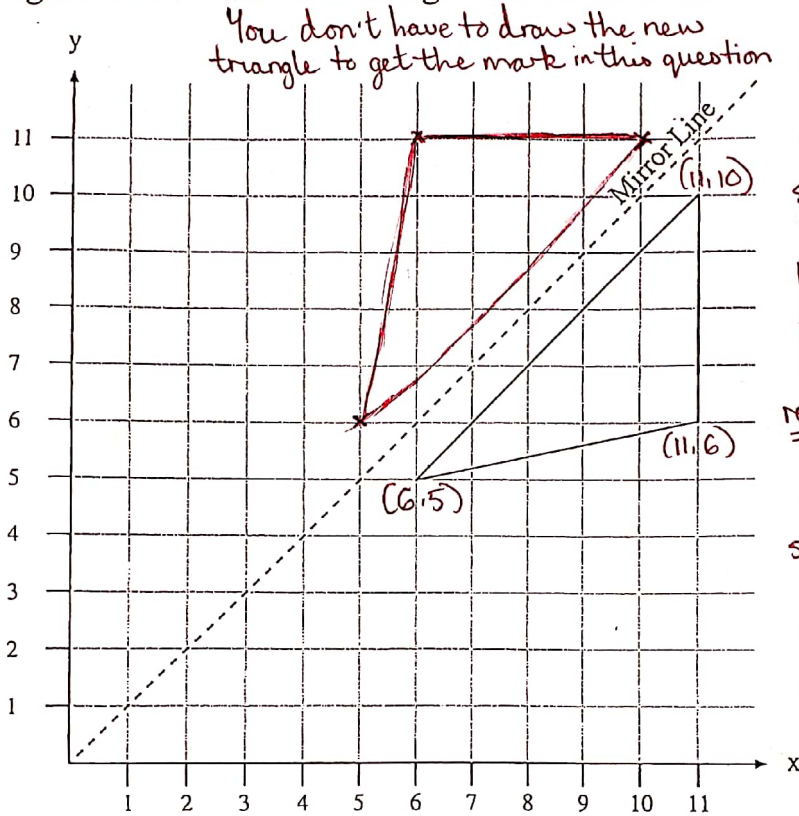
24 cm<sup>2</sup>

Do not write in this column

1

co-ordinates - remember,  
 (2,7) means 2 across then 7 up  
 → across then ↑

49. In the figure below there is a triangle and a mirror line.



TRICK  
 If the line of symmetry (mirror line) is a diagonal line which runs from (0,0), (1,1), (2,2) etc then reverse the co-ordinates of each point so (6,5) becomes (5,6)  
 (11,6) → (6,11)  
 (11,10) → (10,11)

Do not write in this column

The triangle is reflected in the mirror line and a new triangle is formed. What are the **coordinates** of the **three vertices** of the **new triangle**? Write your answers in any order in the spaces below.

(5, 6)      (6, 11)      (10, 11)

All

50. A map has the following scale:

1 centimetre represents 5 kilometres.

Two towns are 5.8 centimetres apart on the map. What is the actual distance between the towns? Write your answer in the space below.

29.0 km  
 or 29

5.8  
 x 5  
 -----  
 29.0

51. Two churches are 27.5 kilometres apart. How far apart are the churches on the map? Write your answer in the space below.

05.5  
 5 | 27.5

5.5 cm or 5½

Windlord

Do not write in this column

- 1 Ally had always hated sports in school. She used every excuse to miss the class, and she liked to pretend that she didn't need exercise. She was one of those people who seemed to be naturally healthy: her hair always looked shining, her skin was clear and she never seemed to put on any weight, no matter how much or how badly she ate. She always had this idea at the back of her mind that she was fit. She was discovering now that she wasn't.
- 2 There was a stitch in her side that stabbed like a red-hot dagger with every breath she took, her throat was raw and her eyes and nose were both running. She was afraid she was going to be sick. She knew the Chopts were close; she didn't know how close because she was afraid to look over her shoulder, but she could hear their panting grunts growing louder, and actually smell their musty, vaguely unpleasant odour. She knew she had to reach the river ... but even if she reached the river would she have the strength left to swim across it?
- 3 The rocky ground sloped downwards towards the river, the rough stones and grit gradually giving away to soft, shifting sand. Ally stumbled when she ran onto the beach, the sands seeming to clutch at her feet. She staggered on for a dozen more steps before she actually fell, the tips of her fingers splashing into the river's icy water. Behind her the beasts howled in triumph.

Michael Scott

52. Two of Ally's senses tell her that the Chopts are getting closer. Tick  the two senses.

- seeing
- hearing
- smelling
- tasting
- touching

both

53. What word in the final paragraph tells us that when Ally fell, the Chopts were confident that she wouldn't escape? Write the word in the space below.

triumph (a feeling that you have won/cannot be beaten)

54. According to the passage, only one of the statements below is correct. Tick  the correct statement.

Even if Ally could outrun the Chopts, she might still be in danger because

- she might not have enough energy left to swim across the river
- she might cut the soles of her feet on the rough stones and grit
- she might be unable to survive in the river's icy cold water
- she might be unable to keep her balance in the soft, shifting sand

55. The passage mentions creatures called Chopts. Using only the information in the passage, tick  the statement that best describes the Chopts.

- Chopts are members of the wolf family
- Chopts can't move quickly on sand
- Chopts can't swim
- Chopts are nasty creatures

56. Find the three or four word phrase in the final paragraph which is closest in meaning to being replaced by. Write the phrase in the space below.

(gradually) giving away to

57. What two verbs tell us that before she fell, Ally wasn't running smoothly on the beach? Write your answers in the spaces below.

stumbled                      staggered

one mark each

58. What phrase used in the first paragraph of the passage means to be conscious of or to believe? You may use between six and eleven words in your phrase. Write your answer in the space below.

(She always had this) idea at the back of her mind

Do not write in this column

1	
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1	
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(6)	