

Marker Code		



Candidate Code			

GOVERNMENT OF SĀMOA
 MINISTRY OF EDUCATION, SPORTS & CULTURE

YEAR 8 NATIONAL EXAMINATION

MATHEMATICS

2008

QUESTION and ANSWER BOOKLET

TIME ALLOWED: **2 HOURS**

TOTAL MARKS: 100

This Examination is in **TWO** Sections.

Both Sections are **COMPULSORY**.

- ◆ **SECTION A** - **RESTRICTED RESPONSE** **50 MARKS**
- ◆ **SECTION B** - **FREE RESPONSE** **50 MARKS**

INSTRUCTIONS:

- ◆ **DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.**
- ◆ Write your **CANDIDATE CODE** in the right-hand box above and the flap page at the back.
- ◆ Write the **MARKER CODE** in the left-hand box above.
- ◆ Answer **ALL** questions in this Booklet.
- ◆ Mathematical instruments are not needed in this Examination.
- ◆ Check that this Booklet contains pages **1 to 20** plus the flap page.

SECTIONS	MARKS
A	
B	
TOTAL	

SECTION A:

RESTRICTED RESPONSE

(50 MARKS)

Instructions:

- This Section has 50 Multiple Choice Questions.
- Each Question is worth **one mark**.
- Read each Question carefully and choose the answer you think is the **best**.
- Write the **letter** of the answer you choose in the box on the **flap page** at the back of this Booklet.
- If you think the answer is **B**, write the letter in the box like this: **B**.
- If you decide to change your answer, put a **CROSS** on your first choice and then write the letter of the second choice beside the box like this: ~~**B**~~ **C**.

1. Which of the following represents a ray?

- A. \bullet
A
- B. ---
AB
- C. $\text{---}\rightarrow$
AB
- D. $\text{---}\leftrightarrow$
AB

2. $\frac{1}{2}$ of $\frac{2}{5} =$ _____.

- A. $\frac{7}{10}$
- B. $\frac{2}{5}$
- C. $\frac{3}{10}$
- D. $\frac{1}{5}$

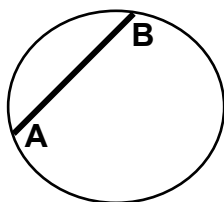
3. 0.25 kilogram is the same as _____.

- A. 2.5 grams
- B. 25 grams
- C. 250 grams
- D. 2500 grams

4. Which of the following shows that 2 is an exponent?

- A. 10_2
- B. 10^2
- C. $10 \div 2$
- D. 10×2

5.



Line AB is called a _____.

- A. semicircle
- B. segment
- C. chord
- D. sector

6. 'Twenty five hundred and five hundredth' is written in numeral as _____.

- A. 250.05
- B. 250.5
- C. 2500.05
- D. 2500.5

7. Which of the following would have a mass closest to a kilogram?

- A. 1 litre Anchor milk
- B. 20 ten sene coins
- C. large bottle of coke
- D. 1 Soifua tinned fish

8. $11.07 - 3.5 =$ _____.

- A. 10.72
- B. 8.57
- C. 8.02
- D. 7.57

9. Seti bought 10 oranges for \$5.00. How much will each orange cost?

- A. 50 sene
- B. 70 sene
- C. \$1.00
- D. \$2.00

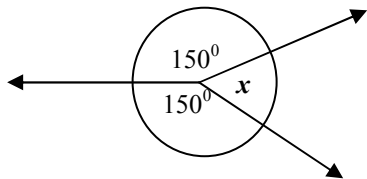
10. $+4 - +7 = \underline{\hspace{2cm}}$

- A. -3
- B. $+3$
- C. -11
- D. $+11$

11. What is 123_{five} as a base ten numeral?

- A. 6
- B. 15
- C. 38
- D. 98

12.



What is the measure of angle x ?

- A. 30°
- B. 60°
- C. 120°
- D. 300°

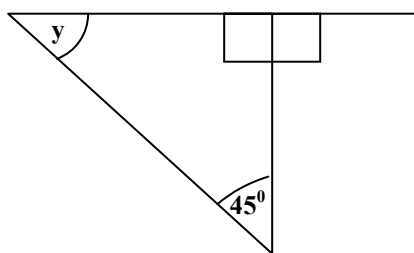
13. 10% of a number is 20. What is the number?

- A. 220
- B. 200
- C. 22
- D. 2

14. 6535 rounded to the nearest ten is _____.

- A. 7000
- B. 6540
- C. 6530
- D. 6500

15.



Angle y is _____.

- A. 135°
- B. 90°
- C. 45°
- D. 35°

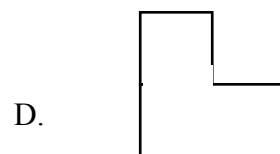
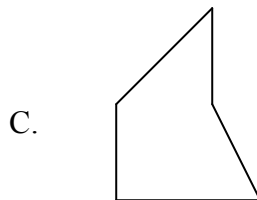
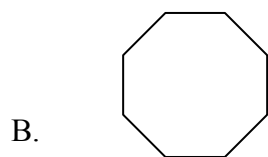
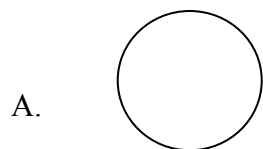
16. Which set of fractions is in the order of largest to the smallest?

- A. $\frac{2}{3}, \frac{3}{4}, \frac{3}{5}$
- B. $\frac{3}{4}, \frac{3}{5}, \frac{2}{3}$
- C. $\frac{3}{5}, \frac{3}{4}, \frac{2}{3}$
- D. $\frac{3}{4}, \frac{2}{3}, \frac{3}{5}$

17. -3 is the inverse of _____.

- A. $+3$
- B. -3
- C. $+0$
- D. -0

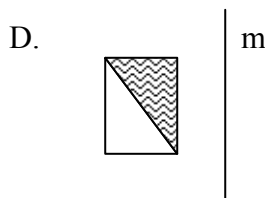
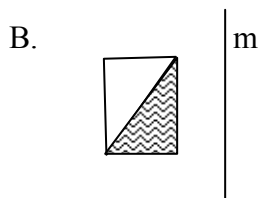
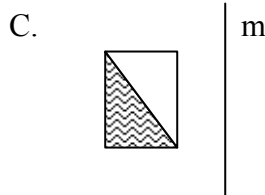
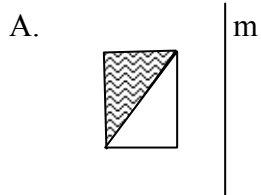
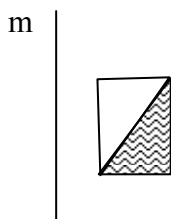
18. Which of the following will tessellate?



19. The reciprocal of x is _____.

- A. $\frac{1}{x}$
- B. $\frac{x}{1}$
- C. $1x$
- D. x^2

20. Which diagram shows the true reflection of the rectangle?
(The mirror line is marked "m")



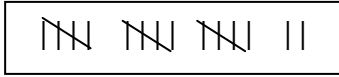
21. $1 \square 2 \times 5 = 760$. What number should be in the box?

- A. 5
- B. 3
- C. 1
- D. 0

22. $\frac{2x}{4} = 2$ $x =$ _____.

- A. 0
- B. 1
- C. 2
- D. 4

23.



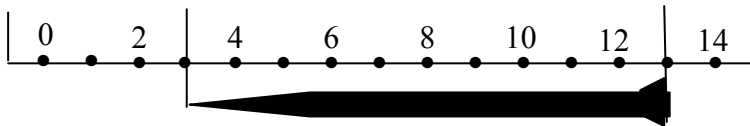
What number is shown by the Tally Table?

- A. 7
- B. 14
- C. 17
- D. 22

24. From a 100 metre ball of string, 65 metres has been used.
How much string is still left in the ball?

- A. 35 metres
- B. 55 metres
- C. 65 metres
- D. 165 metres

25.



What is the length of the nail shown above?

- A. 3 units
- B. 5 units
- C. 10 units
- D. 13 units

26. $2\frac{1}{2}\%$ = _____.

- A. $\frac{5}{2}$
- B. $\frac{5}{10}$
- C. $\frac{5}{100}$
- D. $\frac{5}{200}$

27. What is the rule used in the pattern?

R	1	2	3	4	5	6	7	8
S	3	7	11	15	19	23	27	31

- A. $S = R + 2$
 B. $S = 4R - 1$
 C. $S = R^2 + 2$
 D. $S = R + 3 - 1$
28. A letter is chosen from the word **mathematics**.
 What is the probability that the letter will be 'm'?

A. $\frac{1}{11}$

B. $\frac{2}{11}$

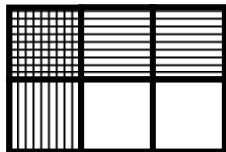
C. $\frac{3}{11}$

D. $\frac{4}{11}$

29. What will be your change from a \$50 note if you buy a CD for \$19.50 and a pencil for \$0.30?

- A. \$19.80
 B. \$30.20
 C. \$30.50
 D. \$69.80

- 30.



The double shaded part of the diagram above is shown in _____.

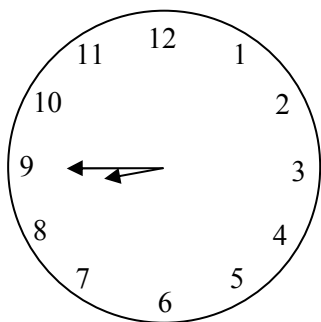
A. $\frac{1}{2} + \frac{1}{3}$

B. $\frac{1}{3} - \frac{1}{2}$

C. $\frac{1}{2} \div \frac{1}{3}$

D. $\frac{1}{3} \times \frac{1}{2}$

31.



The time shown on the clock was quarter to nine at night.
What time was that on a 24 hour clock?

- A. 0845 hrs
- B. 0915 hrs
- C. 2045 hrs
- D. 2145 hrs

32. Choose the correct algebraic expression for the statement below:

“Half the number times three is twelve.”

- A. $2n \times 3 = 12$
- B. $\frac{2}{n} \div (2 \times 3) = 12$
- C. $\frac{n}{2} \times 3 = 12$
- D. $n \times (2 \div 3) = 12$

33. If x equals 3, what is the value of $2x + 4$?

- A. 8
- B. 10
- C. 12
- D. 14

34. The difference between the highest and the lowest score is the _____.

- A. mean
- B. range
- C. median
- D. mode

35. $3 \times 10^{-1} = \underline{\hspace{2cm}}$.

A. 30

B. 3

C. $\frac{1}{10}$

D. $\frac{3}{10}$

36.



Drawing **N** is the enlargement of Drawing **O**.
What is the size of side **y**?

A. $\frac{1}{2}$

B. $\frac{3}{4}$

C. 2

D. 9

37. Which of the following proves that the number sentence below is correct?

$$+5 - +8 = -3$$

A. Start at $+8$. Face positive then move forward 5 steps

B. Start at $+5$. Face negative then move backward 8 steps

C. Start at $+8$. Face positive then move backward 5 steps

D. Start at $+5$. Face negative then move forward 8 steps

38. Samu's average mark for 5 subjects was 55.
What was his total mark for the test?

A. 60

B. 110

C. 220

D. 275

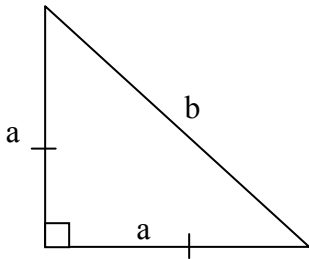
39. 2 and 3 are prime factors of _____.

- A. 6
- B. 8
- C. 10
- D. 15

40. Eti works 8 hours a day. He starts working at 9.00 a.m.
What time does he finish work?

- A. 4:00 p.m.
- B. 5:00 p.m.
- C. 6:00 p.m.
- D. 7:00 p.m.

41.



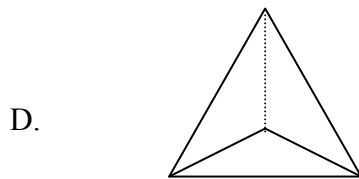
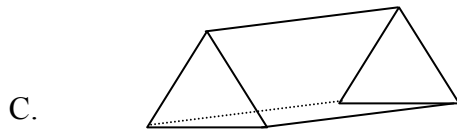
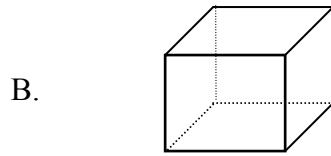
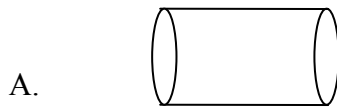
Find the perimeter of the triangle.

- A. $2a + b$
- B. $a^2 + b$
- C. a^2b
- D. ab^2

42. If you are asked by the teacher to construct a quadrilateral, which of the following set of angles will you choose?

- A. $60^\circ, 60^\circ, 60^\circ$
- B. $120^\circ, 100^\circ, 80^\circ, 60^\circ$
- C. $200^\circ, 130^\circ, 80^\circ, 70^\circ, 60^\circ$
- D. $80^\circ, 90^\circ, 120^\circ, 130^\circ, 140^\circ, 160^\circ$

43. Which one of the following is a pyramid?



44. 12, 16, 13, 12, 14, 9, 11, 15, 10

What is the median of scores above?

- A. 11
- B. 12
- C. 13
- D. 14

45. \$40 was shared between Pati and Fatu to the ratio of 1:3.
How much did Fatu get?

- A. \$10
- B. \$20
- C. \$30
- D. \$40

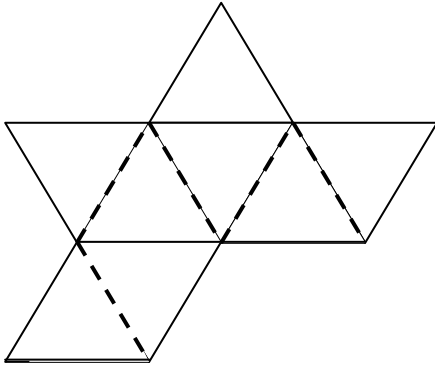
46. Semi runs 11.5 metres per second. How far does he run for 10 seconds?

- A. 115 metres
- B. 115.5 metres
- C. 1150 metres
- D. 1150.5 metres

47. Which of the following is **not** a polygon?

- A. triangle
- B. quadrilateral
- C. pentagon
- D. prism

48.



This is a net of a/an _____.

- A. Tetrahedron
- B. Hexahedron
- C. Octahedron
- D. Dodecahedron

49. $\frac{n}{8} = 0$

$n =$ _____.

- A. 0
- B. 1
- C. 2
- D. 4

50. Which one of the following is an axis of symmetry for the circle?

- A. diameter
- B. radius
- C. arc
- D. segment

SECTION B:

FREE RESPONSE

(50 MARKS)

This Section is in TWO Parts.

Part ONE:	Matching	5 marks
Part TWO:	Extended Answers	45 marks

PART ONE:

MATCHING

5 MARKS

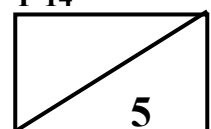
Instructions:

- Match the definitions in **LIST A** with the correct terms in **LIST B**.
- Write the LETTER of your answer in the box provided for each question.
- The first one is done for you as an example.
- If you want to change your answer, cross out your first choice and write your second choice beside the box like this: A B.

	LIST A	LIST B	ANSWER
	<i>Example: An angle that is less than 90°</i>	A. Acute angle	<input type="text" value="A"/>
1.	The lines which are the same distance from each other and which never cross.	B. Reflex angle	<input type="text"/>
2.	The line which is perpendicular to a horizontal line.	C. Perpendicular lines	<input type="text"/>
3.	An angle that is 180°	D. Full turn or revolution	<input type="text"/>
4.	An angle that is greater than 180° .	E. Parallel lines	<input type="text"/>
5.	An angle that is 360° .	F. Vertical line	<input type="text"/>
		G. Straight angle	

P 14

Part One =



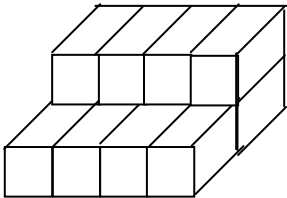
PART TWO:

EXTENDED ANSWERS

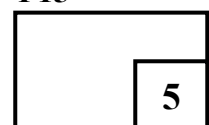
(45 MARKS)

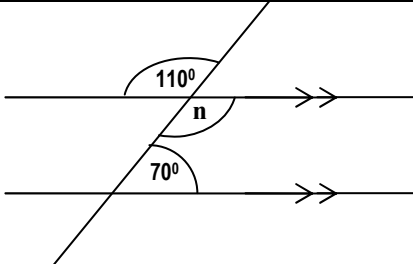
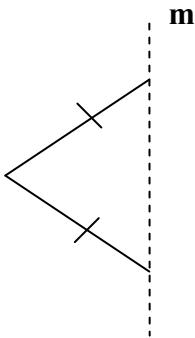
Instructions:

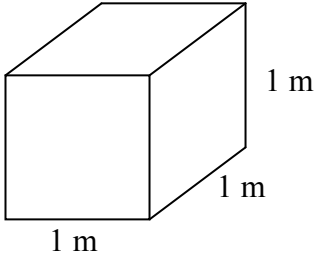
- Show your working for all questions worth more than one mark in the column for working.
- Write your answers clearly in the spaces provided for answers.

	QUESTIONS	WORKING												
6.	What property of multiplication is shown in $5 \times 6 = 6 \times 5$	Ans: _____ 1 mark												
7.	 <p>How many bricks are used to build the steps above?</p>	Ans: _____ 1 mark												
8.	<table border="1" data-bbox="287 1232 718 1377"> <tbody> <tr> <td>I</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>—</td> </tr> <tr> <td>O</td> <td>2</td> <td>4</td> <td>6</td> <td>8</td> <td>16</td> </tr> </tbody> </table> <p>What is I if O is 16?</p>	I	1	2	3	4	—	O	2	4	6	8	16	Ans: _____ 1 mark
I	1	2	3	4	—									
O	2	4	6	8	16									
9.	What is the circumference of the circle if its radius is 5 cm? ($\pi = 3$)	Ans: _____ 2 marks												

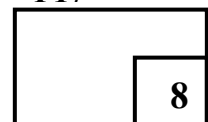
P15

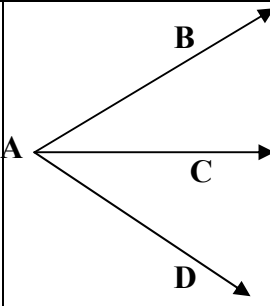
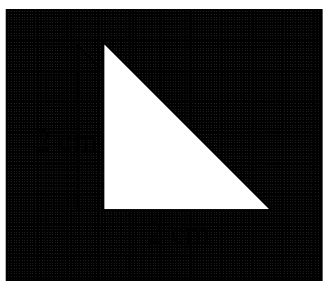


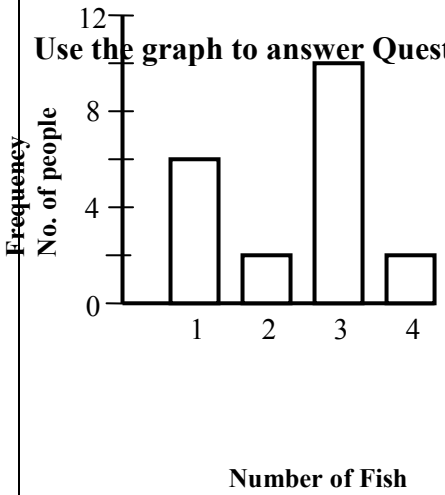
10.	Write the expanded form of 204.	Ans: _____ 1 mark
11.	 <p>What is the measure of angle n?</p>	Ans: _____ 1mark
12.	A regular pentagon has a perimeter of 25 cm. How long is each side of the pentagon?	Ans: _____ 2 marks
13.	 <p>'m' is the mirror line.</p> <p>What is the name of the polygon when the reflection of the above drawing is completed?</p>	Ans: _____ 1 mark

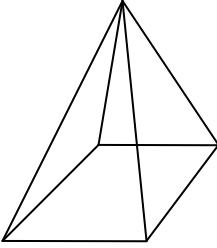
14.	The plane usually departs Auckland at 1855 hours and arrives at Faleolo at 2300 hours. How long is the trip?	Ans: _____ 2 marks
15.	<p>Use the method of Back Tracking to solve $\frac{2n - 2}{2} = 4$</p> <p style="text-align: center;"> $\begin{array}{cccc} \times 2 & -2 & \div 2 & \\ \boxed{n} & \boxed{} & \boxed{} & \boxed{4} \end{array}$ </p> <p>$n = \underline{\hspace{2cm}}$.</p>	Ans: _____ 3 marks
16.	$123_{\text{five}} - 34_{\text{five}} = \underline{\hspace{2cm}}_{\text{five}}$	Ans: _____ 1 mark
17.	 <p>Find the volume of the cube.</p>	Ans: _____ 2 marks

P17



18.	 <p>→ AC bisects angle BAD.</p> <p>What is the measure of angle BAD if angle CAD is 15°?</p>	Ans: _____ 2 marks
19.	$46 + 2.3 + \square = 49.$	Ans: _____ 3 marks
20.	 <p>4 cm</p> <p>4 cm</p> <p>Find the area of the shaded part of the square.</p>	Ans: _____ 4 marks

21.	$12 - 8 + 4 \div 2 = \underline{\hspace{2cm}}$	<p style="text-align: right;">Ans: _____ 4 marks</p>
22.	<p>Use the graph to answer Questions 22 (i) and (ii).</p>  <p style="text-align: center;">Number of Fish</p> <p>(i) What is the number of fish that most of the fishermen caught?</p> <p>(ii) How many fishermen were in the competition?</p>	<p>(i) Ans: _____ 1 mark</p> <p>(ii) Ans: _____ 2 marks</p>
23.	<p>Sasa is 1.2 m tall. Vesi is 10 cm taller than Sasa. What is Vesi's height?</p>	<p style="text-align: right;">Ans: _____ 2 marks</p>

24.	 <p>What is the total number of faces of the above solid?</p>	Ans: _____ 1 mark
25.	Meto received \$150 interest from her fixed account of \$1000 for 5 years. How much interest will she get when the same amount is fixed for 1 year?	Ans: _____ 2 marks
26.	A school roll in 2005 was 500. In 2007, the school roll increased to 550. What was the percentage of increase in 2007?	Ans: _____ 3 marks
27.	There were 2 red, 3 blue and 4 yellow cards on the teacher's table. What is the probability of selecting a green card from the table?	Ans: _____ 1 mark
28.	A taxi driver received his weekly Commission of \$120 which was 30% of the money he collected last week. What was his total collection of that week?	Ans: _____ 2 marks

Candidate Code			

SECTION A:

RESTRICTED RESPONSE

(50 MARKS)

Instructions:

- Answer Questions 1 – 50 on this page.
- If you think the answer is **B**, write the letter in the box like this: .
- If you decide to change your answer, put a **CROSS** on your first choice and then write the letter of the second choice beside the box like this: .

1.	<input style="width: 50px; height: 25px;" type="text"/>	11.	<input style="width: 50px; height: 25px;" type="text"/>	21.	<input style="width: 50px; height: 25px;" type="text"/>	31.	<input style="width: 50px; height: 25px;" type="text"/>	41.	<input style="width: 50px; height: 25px;" type="text"/>
2.	<input style="width: 50px; height: 25px;" type="text"/>	12.	<input style="width: 50px; height: 25px;" type="text"/>	22.	<input style="width: 50px; height: 25px;" type="text"/>	32.	<input style="width: 50px; height: 25px;" type="text"/>	42.	<input style="width: 50px; height: 25px;" type="text"/>
3.	<input style="width: 50px; height: 25px;" type="text"/>	13.	<input style="width: 50px; height: 25px;" type="text"/>	23.	<input style="width: 50px; height: 25px;" type="text"/>	33.	<input style="width: 50px; height: 25px;" type="text"/>	43.	<input style="width: 50px; height: 25px;" type="text"/>
4.	<input style="width: 50px; height: 25px;" type="text"/>	14.	<input style="width: 50px; height: 25px;" type="text"/>	24.	<input style="width: 50px; height: 25px;" type="text"/>	34.	<input style="width: 50px; height: 25px;" type="text"/>	44.	<input style="width: 50px; height: 25px;" type="text"/>
5.	<input style="width: 50px; height: 25px;" type="text"/>	15.	<input style="width: 50px; height: 25px;" type="text"/>	25.	<input style="width: 50px; height: 25px;" type="text"/>	35.	<input style="width: 50px; height: 25px;" type="text"/>	45.	<input style="width: 50px; height: 25px;" type="text"/>
6.	<input style="width: 50px; height: 25px;" type="text"/>	16.	<input style="width: 50px; height: 25px;" type="text"/>	26.	<input style="width: 50px; height: 25px;" type="text"/>	36.	<input style="width: 50px; height: 25px;" type="text"/>	46.	<input style="width: 50px; height: 25px;" type="text"/>
7.	<input style="width: 50px; height: 25px;" type="text"/>	17.	<input style="width: 50px; height: 25px;" type="text"/>	27.	<input style="width: 50px; height: 25px;" type="text"/>	37.	<input style="width: 50px; height: 25px;" type="text"/>	47.	<input style="width: 50px; height: 25px;" type="text"/>
8.	<input style="width: 50px; height: 25px;" type="text"/>	18.	<input style="width: 50px; height: 25px;" type="text"/>	28.	<input style="width: 50px; height: 25px;" type="text"/>	38.	<input style="width: 50px; height: 25px;" type="text"/>	48.	<input style="width: 50px; height: 25px;" type="text"/>
9.	<input style="width: 50px; height: 25px;" type="text"/>	19.	<input style="width: 50px; height: 25px;" type="text"/>	29.	<input style="width: 50px; height: 25px;" type="text"/>	39.	<input style="width: 50px; height: 25px;" type="text"/>	49.	<input style="width: 50px; height: 25px;" type="text"/>
10.	<input style="width: 50px; height: 25px;" type="text"/>	20.	<input style="width: 50px; height: 25px;" type="text"/>	30.	<input style="width: 50px; height: 25px;" type="text"/>	40.	<input style="width: 50px; height: 25px;" type="text"/>	50.	<input style="width: 50px; height: 25px;" type="text"/>

TOTAL =

50
