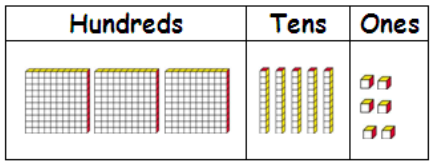
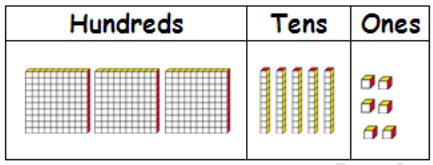
FAS-PASS
Maths

NATIONAL TEST 2011
Mathematics – Standard III

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*
1.	Write the numeral for the number shown on the place value chart.  **Answer: 358**	 3 hundreds 5 tens 6 ones 3 sets of 100's $= 3 \times 100 = 300$ 5 sets of 10's $= 5 \times 10 = 50 +$ 8 ones $= 8 \times 1 = 8$ Total $= 358$ $\therefore$ The numeral for the number shown on the place value chart is 358.	
2.	Circle the number in which the numeral 3 has the greatest value. 7139 7139 7913 Answer: 7319 7139 7913	We place the numbers on a place value chart and note their values. Th H T O 7 3 1 9 — 3 hundreds = 300 7 1 3 9 — 3 tens = 30 7 9 1 3 — 3 ones = 3 Since 300 is greater than 30 and also greater than 3, the number in which the numeral 3 has the greatest value is the number 7 319.	

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3.	In a game the player closest to 1000 points wins a prize. Who won the prize? **Answer: Marlon**	Ravi's score: Th H T O 1 2 0 0 + 4 9 0 3 5 0 1 0 4 0 Difference between Ravi's score and 1 000 = 1 040 – 1 000 = 40 Marlon's score: Th H T O 5 0 0 + 3 0 0 1 8 5 9 8 5 Difference between Marlon's score and 1 000 = 1 000 – 985 = 15 Alex's score: Th H T O 1 4 5 0 + 3 5 0 1 5 0 9 5 0 Difference between Alex's score and 1 000 = 1 000 – 950 = 50 The smallest number among these differences of 40, 15 and 50 is 15. ∴The score closest to 1000 is Marlon's score of 985 ∴Marlon would have won the prize.	

Name	Points
Ravi	200 + 490 + 350
Marlon	500 + 300 + 185
Alex	450 + 350 + 150

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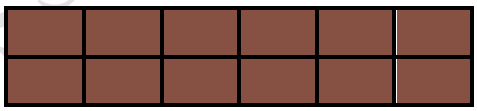
4.	Circle two numbers that add up to an **even** number that is **greater** than 25. **11 12 13 14** Answer: 11 (12) 13 (14)	The available numbers are 11, 12, 13 and 14. Two numbers whose sum is even are Either both are odd or both are even. The numbers can be 11 + 13 = 24 or 12 + 14 = 26 But the sum must be greater than 25. The numbers could only be 12 and 14. 12 + 14 = 26. This total is both greater than 25 and is an even number, since it is divisible by 2.	
5.	Sasha has a bar of chocolate with 12 blocks. She gave 2 blocks to her sister and 3 blocks to her brother. With what fraction of the bar was she left? **Answer:** $\frac{7}{12}$	Sasha's bar of 12 chocolate blocks  Sasha gave away: 2 blocks to her sister 3 blocks to her brother The total number of blocks given away = 2 + 3 = 5 Number of blocks remaining = 12 - 5 = 7  Hence, the fraction of the chocolate bar that Sasha has left = $\frac{7}{12}$	

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6.	Circle the two fractions that are equivalent. $\frac{6}{15}$ $\frac{10}{15}$ $\frac{8}{20}$ $\frac{15}{20}$ Answer: $\frac{6}{15}$ $\frac{10}{15}$ $\frac{8}{20}$ $\frac{15}{20}$	The fractions cannot be compared unless they are expressed in the same denominator. The smallest number that is a multiple of both 15 and 20 is 60. So, we express all the fractions using 60 as the denominator: $\frac{6}{15} \overset{\times 4}{=} \frac{24}{60}$ $\frac{10}{15} \overset{\times 4}{=} \frac{40}{60}$ $\frac{8}{20} \overset{\times 3}{=} \frac{24}{60}$ $\frac{15}{20} \overset{\times 3}{=} \frac{45}{60}$ Notice the fractions $\frac{6}{15}$ and $\frac{8}{20}$ are both equal to $\frac{24}{60}$. Hence, the only two equivalent fractions from among the four fractions given are $\frac{6}{15}$ and $\frac{8}{20}$.	

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7.	A bus holds 145 passengers when full.  How many passengers can be transported in 13 similar buses? **Answer: 1885 passengers**	1 full bus holds = 145 passengers 13 full buses will hold $=145\times13$ passengers Th H T O 1 4 5 × 1 3 1 4 5 0 145× 10 4 3 5 145× 3 1 8 8 5	
8. a. b.	253 toy trucks were packed into boxes. Each box can hold 8 toy trucks. How many boxes were completely filled? **Answer: 31 boxes** How many toy trucks were left over? **Answer: 5 toy trucks**	a. 1 box holds 8 toy trucks 10 boxes will hold 8x10=80 trucks Fill 10 boxes at a time and check 10 boxes hold 80, total filled is 80 10 boxes hold 80, total filled is 160 10 boxes hold 80, total filled is 240 1 box will hold 8, total filled is 248 So, 10 + 10 + 10 + 1 = 31 boxes will be completely filled. b. Hence, 253-248 = 5 toys remain. OR 253÷ 8 = 31 R 5 H T O 3 1 Filled boxes 8 2 5 3 2 4 0 30× 8 1 3 8 1 × 8 5 Remainder	

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9.	Kimlin and Sashi together have 136 stickers. Kimlin has 14 stickers more than Sashi.	a. We can represent Kimlin and Sashi's stickers as one whole.	
a.	How many stickers does Sashi have?	136 stickers Kimlin has 14 more stickers than Sashi. Let us separate these 14 stickers from the whole. 136–14 = 122 stickers. Our whole of 136 stickers is now made up like this:	
	Answer: 61 stickers	Sashi and Kimlin: 122 | Kimlin: 14 The 122 stickers are shared equally between the two girls. Each will have 122÷2 = 61	
b.	How many stickers does Kimlin have?	Sashi=61: 61 | Kimlin=61+14=75: 61 | 14 Sashi has 61 stickers b. Kimlin has 75 stickers	
	Answer: 75 stickers	OR a. We subtract 14 from the total (136–14=122) and then divide the answer by 2. Sashi has 122÷2 = 61 stickers. b. Since Kimlin has 14 more than Sashi, then Kimlin has = 61 + 14 = 75 stickers	

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10.	At a school concert, adults and children were present. A total of 875 persons were present.	a. Total number of persons = 875 Number of children = 261 Number of adults = 875 – 261	
a.	If 261 were children, how many adults were present? **Answer: 614 adults**	<table><tr><th></th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td>8</td><td>7</td><td>5</td></tr><tr><td>–</td><td>2</td><td>6</td><td>1</td></tr><tr><td></td><td>6</td><td>1</td><td>4</td></tr></table> The total number of adults present = 614.	
b.	Of the adults present, 342 were women, how many men were present? **Answer: 272 men**	b. Number of adults present = 614 Number of women present = 342 The number of men present = 614 – 342 = 272 <table><tr><th></th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td>5</td><td>11</td><td></td></tr><tr><td></td><td>~~6~~</td><td>1</td><td>4</td></tr><tr><td>–</td><td>3</td><td>4</td><td>2</td></tr><tr><td></td><td>2</td><td>7</td><td>2</td></tr></table>	
11.	Tick ☑ the correct answer. The length of a skipping rope is approximately: ☑ 2 metres ☐ 2 centimetres ☐ 2 kilometres	2 cm is about the length of an eraser. 2 km is about the length of a street. 2 m is about the height of a door. Hence, the length of a skipping rope is approximately 2 m.	

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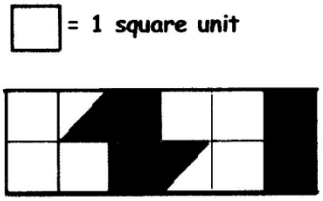
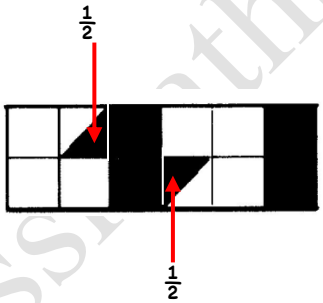
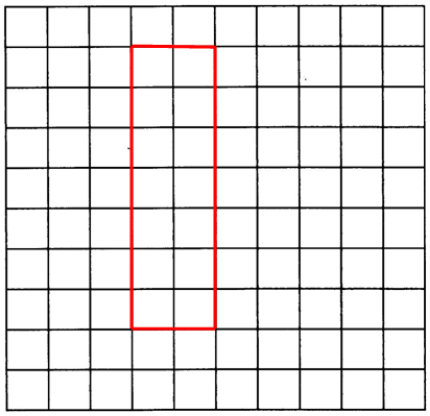
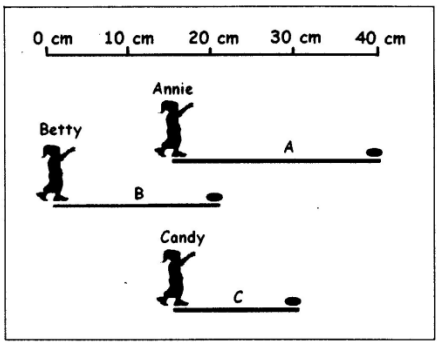
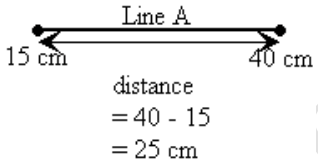
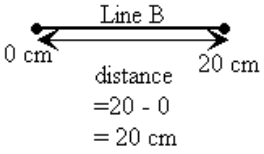
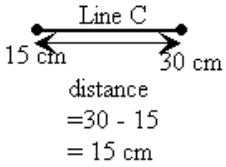
12.	What is the area of the shaded part of the figure?  **Answer: 5 square units.**	The entire rectangular figure is divided into 12 smaller squares. Each small square is of area 1 square unit. Two of the squares are divided into two equal triangles. The area of these triangles is one half of a square unit.  The area of the shaded part of the figure = Area of the 4 fully shaded squares + Area of the 2 shaded triangles = $4 + \frac{1}{2} + \frac{1}{2}$ square units = 4 + 1 square units = 5 square units	

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*
13.	Each square on the grid is one 1 unit in length. Draw a rectangle with a perimeter of 18 units. 	There are several rectangles that can be drawn whose perimeter is 18 units. The perimeter of a rectangle = 2 x (Length + Width) 2 x (Length + Width) = 18 units Therefore (Length + Width) $= \frac{18}{2}$ $= 9$ units Taking any two whole numbers that have a sum of 9, we have the following possibilities: Length | Width | L + W =9 1 | 8 | 9 2 | 7 | 9 3 | 6 | 9 4 | 5 | 9 Rectangles drawn with the above dimensions will have a perimeter of 18 units. One such rectangle is drawn on the grid provided. The rectangle chosen to be drawn is 2 units in width by 7 units in length, as shown.	

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*
14.	Three children threw coins while playing a game. The lines A, B and C below represent the distances thrown by Annie, Betty and Candy.  	a. Annie threw the coin from the 15 cm mark to the 40 cm mark.  distance = 40 - 15 = 25 cm Annie's distance: A = 25 cm. Betty threw the coin from the 0 cm mark to the 20 cm mark.  distance =20 - 0 = 20 cm Betty's distance: B = 20 cm Candy threw the coin from the 15 cm mark to the 30 cm mark.  distance =30 - 15 = 15 cm Candy's distance: C = 15 cm The distances from shortest to longest are: 15 20 25 C B A	
a.	Order the line A, B and C from the shortest to longest by writing the letters in the boxes. ☐ ☐ ☐ Shortest Longest Answer: C B A Shortest Longest		
b.	What is the approximate length of line A? **Answer: 25 cm**	b. The approximate length of line A is 25 cm, as obtained before, in part (a).	

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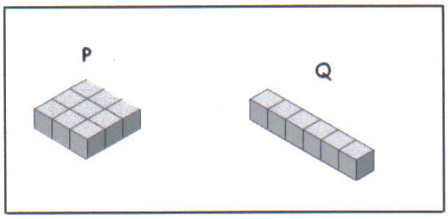
15.	The solids P and Q are made up of small cubes of edge 1 cm long.  	a. The solid P has 3 rows of small cubes. Each row has 3 small cubes The solid P is made up of $3 \times 3 = 9$ small cubes. OR We could count the three rows of cubes: 3+3+3 = 9	
a.	State the number of small cubes in solid P. **Answer: 9 small cubes**	b. Solid Q has 6 small cubes. Solid P has 9 small cubes. Solid P is made up of more of the small cubes than is Solid Q. Therefore, Solid P has the greater volume.	
b.	Which solid has the greater volume? **Answer: Solid P**	c. Volume of 1 small cube =1 cm^3 Solid Q consists of 6 small cubes, each of volume 1 cm^3.	
c.	State the volume of solid Q. **Answer: 6 cm^3**	Volume of solid Q = 6 cm^3	

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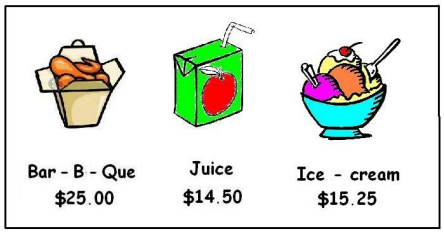
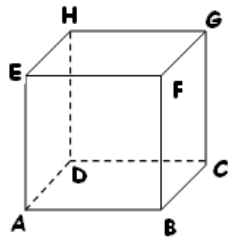
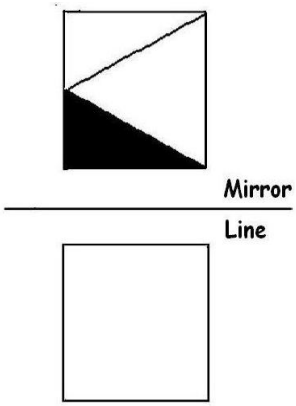
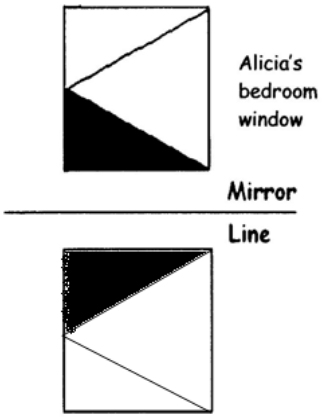
16.	Amrit is a daily paid worker. He works for $75.00 each day. a. Calculate his pay for the month of April if he works for 12 days. **Answer: $900** b. In the month of May, he earned $750.00. How many days did he work in May? **Answer: 10 days** c. In the month of June his earnings was twice as much as his earnings in May. How many days did he work in June? **Answer: 20 days**	a. Amrit's pay for 1 day is $75.00. Amrit's pay for 12 days would be $75 x 12 = $75 x 10 + $75 x 2 = $750 + $150 = $900 b. In May, Amrit worked for $750.00. The number of days that Amrit worked $= \frac{\text{Total earnings}}{\text{Pay per day}}$ $= \frac{\$750}{\$75} = 10$ c. Amrit's earnings in May = $750 His earnings in June = 2 x earnings in May $= \$750 \times 2 = \$1500$ $\therefore$ The number of days Amrit worked in June $= \frac{\text{Total earnings in June}}{\text{Daily wage}}$ $= \frac{\$1500}{\$75} = 20$ **OR** If Amrit worked for 10 days in May and in June he worked for twice the salary, then he would have worked for twice the number of days in June. $= 10 \text{ days} \times 2 = 20 \text{ days}$	

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*
17.	The following items are available at the food court in a mall.  		
a.	Marvin bought 1 box of Bar-B-Que and 2 packs of juice. How much does he pay altogether? **Answer: $54.00**	a. Cost of 1 box of Bar-B-Que = $25.00 Cost of 2 packs of juice at $14.50 per pack = $14.50 x 2 = $14.50 + $14.50 = $14 + $14 +$1 = $29.00 Total cost to Marvin = $25+$29 = $54	
b.	Mary bought 4 items. Her total bill was $70.00. Write the number of each type of items that she bought in the boxes below. ☐ Bar-B-Que ☐ Juice ☐ Ice-cream **Answer:** 1 Bar-B-Que 1 Juice 2 Ice-cream	b. Mary's bill for 4 items is $70.00. Mary bought at least one of each item: 1 box of Bar-B-Que = $25.00 1 juice = $14.50 1 ice cream = $15.25 Total cost of 3 items = $54.75 Amount Mary had left to spend on the 4th item = $70 – $54.75 = $15.25 $ | cents 69 | 100 ~~70~~ | 00 - 54 | 75 15 | 25 For $15.25 Mary can buy an ice-cream. Mary bought 1 Bar-b-Que, 1 juice and 2 Ice-creams.	

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*
18.	Sameer made the frame of a solid using straws and plasticine. He used 12 straws of the same length for the edges. Name the solid Sameer made. **Answer: Cube**	If the 12 straws used are of the same length, he made a cube.  There are 4 edges om the base 4 edges on the top and 4 vertical edges. The shape of the solid is a cube, as shown above.	
19.	Alicia's bedroom window has the following pattern.  Draw the image of Alicia's window when flipped about the mirror line.	The image of the window is obtained by flipping the object on the mirror line.  	

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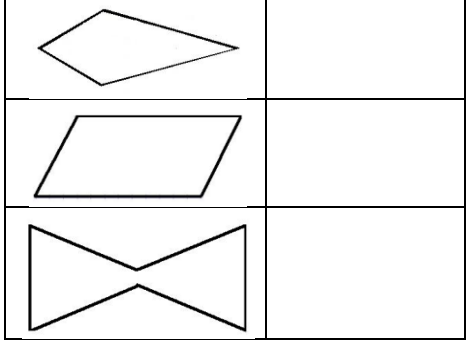
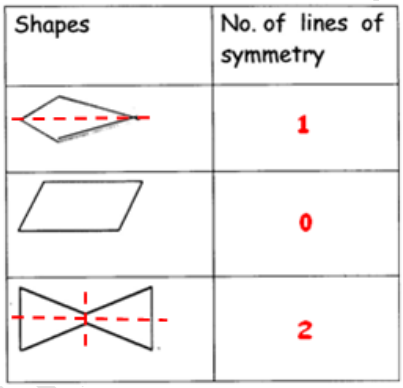
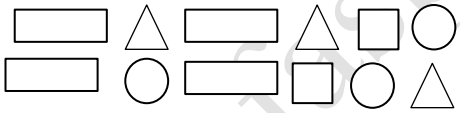
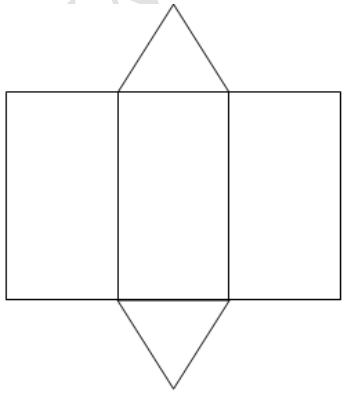
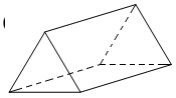
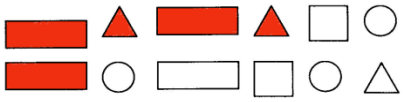
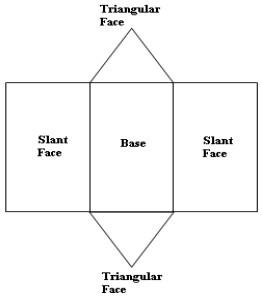
20.	Complete the table below. Shapes | No. of lines of symmetry 	The lines of symmetry of the objects are shown dotted. When the object is folded along its line of symmetry there is no over-lapping. Shapes | No. of lines of symmetry  1 0 2	
21. a. b.	Shade all the plane shapes that are faces of a triangular prism.  Draw the net of the triangular prism. 	a. A triangular prism has 3 rectangular faces 2 triangular faces.  We shade as shown:  b. The net is the flat shape that will form the prism, when folded: 	

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22.	Marcus tallied the following information based on his friends' favourite meals. Complete the tally chart. Meal / Tally / Number Roti / 𝍸 𝍸 ||| / 13 Pelau / / 9	The tally chart is shown completed. Meal / Tally / Number Roti / 𝍸 𝍸 ||| / 13 Pelau / 𝍸 |||| / 9	
23.	The table below shows the snacks sold at a school cafeteria for the week. Items / Packs Sold Corn Curls / 432 Juice / 791 Red Mango / 260 Cherries / 325	a. Number of packs of Corn Curls sold = 432 Number of packs of Red Mango sold = 260 The number of packs of Corn Curls sold is more than the number of packs of Red Mango sold by (432 – 260) = 172	
a.	How many more packs of Corn Curls were sold than packs of Red Mango? **Answer: 172 packs**	H / T / O 3 / 13 / ~~4~~ / ~~3~~ / 2 – 2 / 6 / 0 1 / 7 / 2	
b.	Based on this week's sales, which item do you think would be sold the most next week? **Answer: Juice**	b. The sales for this week show that Juice was the item that was sold the most. If this pattern continues in the next week then Juice will be sold the most.	

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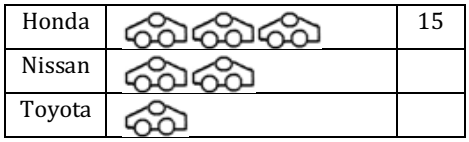
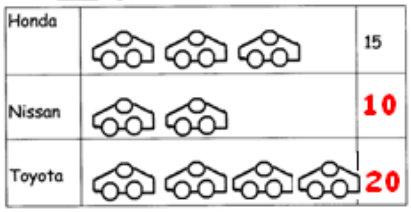
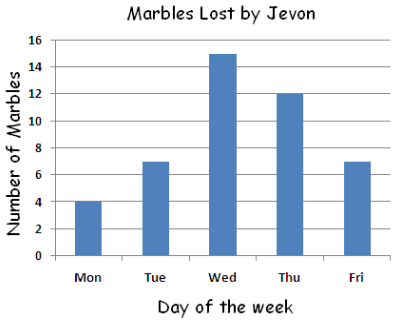
24.	The pictograph below shows the make of cars owned by teachers in a school.  	a. From the diagram, 3 car pictures represent 15 teachers. 1 car picture will therefore represent 15 ÷ 3 = 5 teachers.	
a.	Complete the key below. **Answer:**  = **5 teachers**	b. The row that corresponds to Nissan cars shows 2 cars. 1 picture represents 5 teachers 2 pictures represent 5x2 = 10 teachers The number of teachers who owned Nissan cars =10	
b.	How many teachers owned Nissan cars? **Answer: 10 teachers**		
c.	*Twenty Toyota cars are owned by teachers. Complete the pictograph to represent the number of teachers who own Toyota cars. Answer:  *It is more accurate to say "The number of teachers who own Toyota cars is 20"	c. The number of teachers who own Toyota cars = 20. To represent 20 Toyota cars, we need 20 ÷ 5 = 4 car pictures One car picture is already drawn. Therefore, we would require 3 more pictures to complete the pictograph to show the number of Toyota cars that teachers own.	

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*
25.	The bar graph below represents the number of marbles Jevon lost in a week.  		
a.	On which two days did Jevon lose the same number of marbles? **Answer: Tuesday and Friday**	a. The same number of marbles was lost on the days that correspond to bars that are of the same height. These days therefore, could only be Tuesday and Friday.	
b.	How many marbles did he lose in all? **Answer: 45 marbles**	b. Number of marbles lost on: Monday = 4 Tuesday = 7 Wednesday = 15 + Thursday = 12 Friday = 7 Hence, total lost = 45	
c.	At the beginning of the week, Jevon had 75 marbles. How many marbles did Jevon have at the end of the week? **Answer: 30 marbles**	c. At the start of the week the number of marbles Jevon had = 75 The total number of marbles lost = 45 The number of marbles Jevon had at the end of the week = The number he had at the start – The number that he lost = 75 – 45 = 30	

END OF TEST