FAS-PASS
Maths

SEA MATHS 2012

Section I

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*			
				KC	AT	PS
1.	**ADD:** 847 + 502 _____ **Answer: 1 349**	847 + 502 1349				
2.	**DIVIDE:** $4\overline{)816}$ **Answer: 204**	$4\overline{)8\,1^{1}6}$ → 204				
3.	Write the numeral which represents: (2×10000)+(6×1000)+(3×10)+(7×1) **Answer: 26 037**	2 × 10 000 = 20 000 6 × 1 000 = 6 000 3 × 10 = 30 + 7 × 1 = 7 26 037				
4.	What FRACTION of the whole shape is shaded?  **Answer: $\frac{3}{8}$**	The whole shape consists of 8 equal triangles. Three (3) are shaded. Therefore, the fraction of the shape that is shaded $= \frac{\text{Number of shaded triangles}}{\text{Total number of triangles}}$ $= \frac{3}{8}$				

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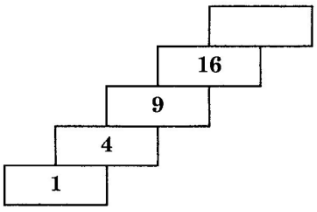
5.	Express, $5\frac{3}{4}$ as an IMPROPER fraction. **Answer: $\frac{23}{4}$**	$5\frac{3}{4}$ represents 5 wholes and $\frac{3}{4}$ 5 wholes can be written as $\frac{20}{4}$ $5\frac{3}{4} = 5 + \frac{3}{4} = \frac{20}{4} + \frac{3}{4}$ $= \frac{23}{4}$				
6.	Kerry has 120 oranges. He sells $\frac{5}{8}$ of them. How many oranges does Kerry sell? **Answer: 75 oranges**	Total number of oranges = 120 Fraction of oranges sold = $\frac{5}{8}$ The number of oranges sold = $\frac{5}{8} \times 120$ $= 75$				
7.	Complete the number pattern below.  **Answer: 25**	We notice the pattern to be: $1 = (1)^2$; $4 = (2)^2$; $9 = (3)^2$; $16 = (4)^2$; $\square = (5)^2 = 25$				

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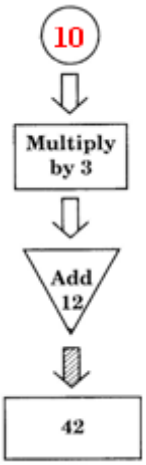
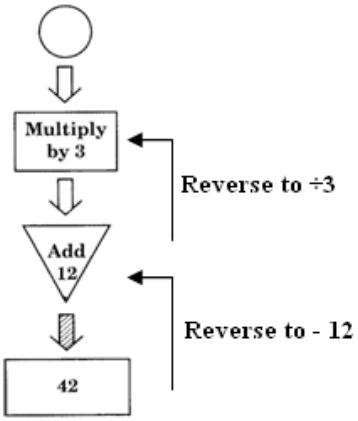
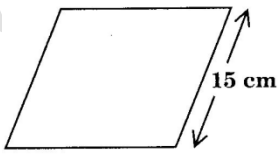
8.	Write the correct number in the circle to find the result shown.  **Answer : 10**	 We can work backwards to reverse this process in order to find the number. The first step is - subtract 12 $42 - 12 = 30$ The 2nd step is – divide by 3 $30 \div 3 = 10$ The number in the circle is 10.				
9.	Nikki has a total of \$7.00 in her piggy bank. If she only saves 25¢ coins, how many 25¢ coins does she have? **Answer: 28 coins**	\$1.00 = 100¢ $= 4 \times 25$ ¢ One dollar is equivalent to four 25¢ coins Total that Nikki has in her piggy bank is = 7 dollars Number of 25¢ coins in 7 dollars $= (4 \times 7) = 28$ Number of 25¢ coins Nikki saved is 28				
10.	The shape below has sides that are all equal.  What is the perimeter of this shape? **Answer: 60 cm**	The figure has 4 sides. All sides are equal and measure 15 cm each. Therefore, the perimeter of the shape $= 15 \text{ cm} \times 4$ or $(15+15+15+15)$cm $= 60$ cm				

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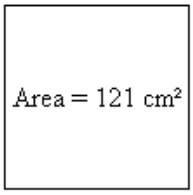
11.	The area of a square is 121 cm^2. Calculate the length of ONE of its sides. **Answer: 11 cm**	 Area of a square $= \text{Side} \times \text{Side}$ $\text{side} \times \text{side} = 121$ $11 \times 11 = 121$ Length of one side $= 11$ cm				
12.	Karen's journey from Rio Claro to Port-of-Spain took 205 minutes. How many HOURS did her journey take? **Answer: $3\frac{5}{12}$ hours**	Time taken in minutes = 205 60 minutes = 1 hour 1 minute = $\frac{1}{60}$ hour 205 minutes = $\frac{205}{60}$ hours $= 3\frac{25}{60}$ hours, which reduces to $= 3\frac{5}{12}$				
13.	Lisle has \$6.00. Pencils are sold at \$1.25 each. What is the GREATEST number of pencils that Lisle can buy? **Answer: 4 pencils**	The cost of each pencil = \$1.25 Lisle has \$6.00 The number of pencils Lisle can buy is found by calculating how many \$1.25 make up \$6.00 Number of pencils $= \frac{\$6.00}{\$1.25}$ $= \frac{600}{125}$ $= \frac{24}{5}$ $= 4\ \frac{4}{5}$ We can discard the remainder 4 (which represents $\frac{4}{5}$ of a pencil) since Lisle cannot buy a fraction of a pencil, The greatest number of pencils that can be bought is 4.				

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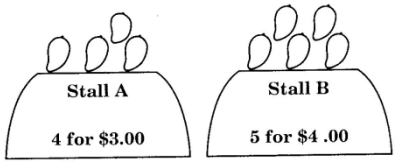
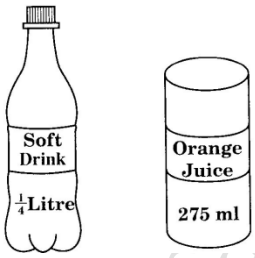
14.	Ron purchases 4 mangoes from Stall A and Mac purchased 5 mangoes from Stall B.  Who bought the mangoes at a cheaper rate? **Answer: Ron**	Ron bought 4 mangoes for $3.00. The cost of one mango at Stall A $= \frac{\$3.00}{4}$ $= \$0.75$ Mac bought 5 mangoes for $4.00. The cost of one mango at Stall B $= \frac{\$4.00}{5}$ $= \$0.80$ The mangoes are therefore less expensive at Stall A where Ron bought his mangoes. Therefore, Ron bought mangoes at a cheaper price.				
15.	Two containers are shown below. Which container holds more?  **Answer: The can**	The bottle of soft drink holds $\frac{1}{4}$ litre. 1 litre = 1000 ml $\frac{1}{4}$ litre $= \frac{1000}{4}$ ml $= 250$ ml 275 ml is more than 250 ml Therefore, the can of orange juice holds more or has a greater capacity than the bottle of soft drink.				

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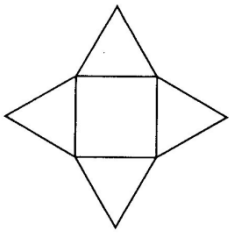
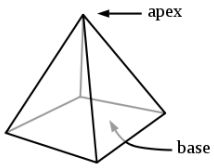
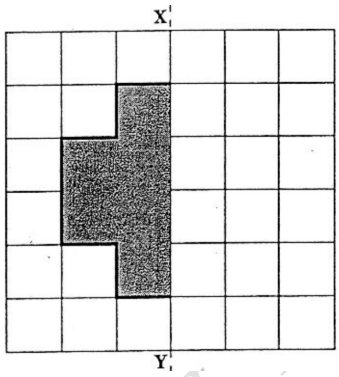
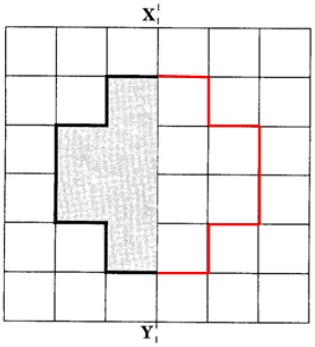
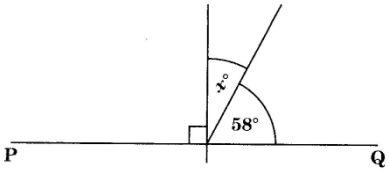
16.	What is the name of the solid that will be formed when the net below is folded?  **Answer: A square based pyramid**	When the shape is folded to form a solid, all the vertices of the triangles will meet at a point. This point is now the apex of a square based pyramid. The completed solid would look like: 				
17.	Complete the shape below so that XY is a line of symmetry. 	The image is the same distance from the line of symmetry, XY, and on the opposite side of XY as the object. When folded along the line XY the object and image will match exactly with no overlap. 				
18.	The diagram below shows an angle labelled $x°$. PQ is a straight line.  Calculate the value of x. **Answer: 32**	The sum of the angles on a straight line = 180°. There are three angles shown and two values are given. The sum of the known angles is $= 90^0 + 58^0$ $= 148^0$ The remaining angle, $x^0 = 180° - 148^0$ Hence, $x = 32$				

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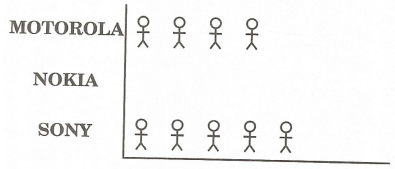
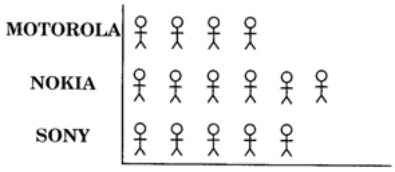
19.	The pictograph below is to be completed to show the favourite brand of cell phones for 30 students in a class. If ♀ represents 2 students, complete the pictograph to show how many students prefer Nokia.  **Answer:**  	Each picture represents 2 students The number of students who prefer Motorola $4 \times 2 = 8$. The number of students who prefer Sony $5 \times 2 = 10$. Hence the total number of students who chose Motorola and Sony = 8 + 10 = 18. Total number of students in the class = 30 Number of students who prefer Nokia = 30 – 18 = 12 Since ♀ represents 2 students The number of, ♀, needed to complete the diagram $12 \div 2 = 6$				
20.	The mean of 20 and 10 is the same as the mean of 16 and □. What number does □ represent? **Answer: 14**	The total of the numbers 20 and 10 = 20 + 10 = 30 The mean of 20 and 10 $= \frac{\text{Total}}{\text{No. of numbers}}$ $= \frac{30}{2}$ $= 15$ The mean of 16 and □ is also15. Then the total of 16 and □ is also 30. $16 + \square = 30$ $\square = 30 - 16$ $= 14$				

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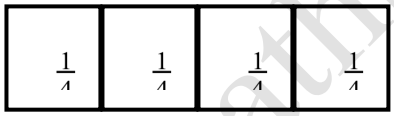
Section II

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*			
				KC	AT	PS
21.	How many pieces of string of length 0.3 m can be cut from a piece 10.5 m long? **Answer: 35 pieces**	Total length of string = 10.5 m The length of 1 piece of string = 0.3 m The number of 0.3 m long pieces of string that can be cut from the piece 10.5 m long $= \frac{10.5}{0.3} = \frac{10.5 \times 10}{0.3 \times 10} = \frac{105}{3} = 35$				
22.	Three-quarters of a number is 60. What is $\frac{1}{5}$ of the SAME number? **Answer: 16**	Let the rectangle below represent the whole number, divided into quarters.  20 20 20 Three quarters of the number = 60 One quarter of the number = 60 ÷ 3 = 20 Four quarters or the whole number = 20 × 4 = 80 $\frac{1}{5}$ of the number is therefore: $\frac{1}{5} \times 80 = 80 \div 5 = 16$				
23.	Which of the following fractions is the LARGEST? $\frac{5}{8}, \quad \frac{2}{3}, \quad \frac{7}{12}$ **Answer: $\frac{2}{3}$**	We can use a common denominator of 24 to express all three fractions (8, 3 and 12 are factors of 24). Converting each fraction to an equivalent form with denominator 24, we get: $\frac{5}{8} = \frac{5}{8} \times \frac{3}{3} = \frac{15}{24}$ $\frac{2}{3} = \frac{2}{3} \times \frac{8}{8} = \frac{16}{24}$ $\frac{7}{12} = \frac{7}{12} \times \frac{2}{2} = \frac{14}{24}$ The largest fraction is the one with the largest numerator. This is $\frac{16}{24}$ or $\frac{2}{3}$				

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No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*			
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24.	What are the next TWO numbers in the sequence 16, 19, 23, 28, ___, ___? **Answer: 34 and 41**	The numbers in the sequence are: 16 | 19 | 23 | 28 | ___ | ___ 16 + **3** = 19 19 + **4** = 23 (**4** is one more than **3**) 23 + **5** = 28 (**5** is one more than **4**) One more than **5** is **6** The next term is expected to be 28 + **6** = 34 One more than **6** is **7** The term after 34 is expected to be 34 + **7** = 41 The next two numbers in the sequence are 34 and 41.				
25.	Tia is required to multiply 579 by 31. Instead she multiplies 579 by 21 correctly. a) What is Tia's answer? **Answer: 12 159** b) Complete the statement below. The difference between the required answer and Tia's answer is equal to $579 \times \boxed{10}$ c) What is the CORRECT answer that was required of Tia? **Answer: 17 949**	a) Tia multiplies 579 by 21. $\begin{array}{r} 579 \\ \times 21 \\ \hline 11580 \\ +\ 579 \\ \hline 12159 \end{array}$ b) Tia was supposed to multiply 579 by 31. Since 31 − 21 = 10, Tia would need 10 more of 579 to get the required answer.The difference between the required answer and Tia's answer is therefore: $= 579 \times \boxed{10}$ c) The correct answer required is 579×31 $= 579 \times 21 + 579 \times 10$ $= 12\,159 + 5\,790$ $= 17\,949$ **OR** Tia's answer can be found by directly multiplying $579 \times 31 = 17\,949$				

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No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*			
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26.	Lisa buys some sweets for a party. She fills 20 bags with 14 sweets each. She has 10 sweets left over. a) How many sweets did Lisa buy? **Answer: 290 sweets** b) How many bags could she fill if she puts 12 sweets in EACH bag? **Answer: 24 bags**	a) Lisa fills 14 bags with 20 sweets each Number of sweets in all the bags $= 14 \times 20$ $= 280$ Number of sweets left over = 10 Total number of sweets that Lisa bought = Number sweets in the bags + Number of sweets left over = 280 + 10 = 290 b) Lisa puts 12 sweets in each bag. Number of bags = 290 ÷ 12. $12\overline{)290}\ \begin{array}{r}24\\ -\\ \underline{24}\\ 50\\ -\\ \underline{48}\\ 2\end{array}$ Lisa can fill 24 bags with 2 sweets left over. Therefore, Lisa would be able to completely fill 24 bags.				
27.	Calculate: $3\frac{2}{3} \div \frac{5}{6}$ **Answer: $4\frac{2}{5}$**	$3\frac{2}{3} \div \frac{5}{6}$ Converting to improper fractions: $3\frac{2}{3} = 3 + \frac{2}{3} = \frac{9}{3} + \frac{2}{3} = \frac{11}{3}$ $\frac{11}{3} \div \frac{5}{6}$ Inverting the divisor and multiplying: $\frac{11}{3} \times \frac{6}{5} = \frac{22}{5}$ $= 4\frac{2}{5}$				

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<table>
<tr><th rowspan="2">No.</th><th rowspan="2">TEST ITEMS</th><th rowspan="2">WORKING COLUMN</th><th colspan="4">Do Not Write Here</th></tr>
<tr><th></th><th>KC</th><th>AT</th><th>PS</th></tr>
<tr><td>28.</td><td>A team earns 2 points for a win, 1 point for a draw and no points for a loss.

The table below shows the points earned by the team.

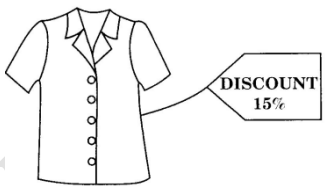
<table><tr><th>Results</th><th>Points</th></tr><tr><td>Won</td><td>16</td></tr><tr><td>Draw</td><td>10</td></tr><tr><td>Loss</td><td>0</td></tr></table>
The team played 25 games. How many games did the team lose?

Answer: 7 games</td><td>Points earned for each game won = 2
The team earned a total of 16 points in games won
Number of games won
$= \frac{16}{2}$
$= 8$ games

Points earned for each game drawn = 1
The team earned a total of 10 points for each game drawn
Number of games drawn
$= \frac{10}{1}$
$= 10$ games

Number of games in which team either won or drawn
= 8 + 10
= 18

Total number of games played = 25
Number of games lost
= 25 – 18 = 7</td><td></td><td></td><td></td><td></td></tr>
<tr><td>29.</td><td>Gina buys the blouse below which is priced at $180.00.

After discount, how much money does she pay for the blouse?

Answer: $153</td><td>The marked price of the blouse = $180
Discount percent = 15%
Discount $= 15\%$ of $180
$= \frac{15}{100} \times \$180$
$= \$27$
Price Gina pays
= Marked price – The discount
$= \$180 - \$27$
= $153

OR
Gina pays $(100 - 15)\%$ of $180
$= \frac{85}{100} \times \$180$
= $ 153</td><td></td><td></td><td></td><td></td></tr>
</table>

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No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*			
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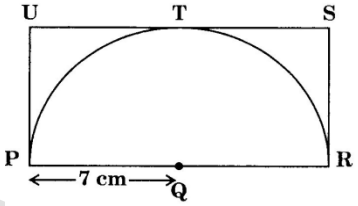
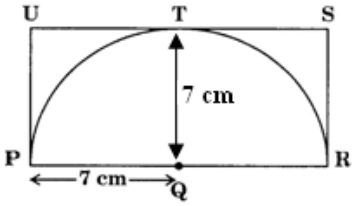
30.	An examination began at 8:30 a.m. and was done in two parts. The first part lasted for 1 hour 50 minutes. The second part lasted for 1 hour 15 minutes. At what time did the examination finish if there was a 20-minute break after the first part? **Answer: 11:55 a.m.**	Starting time of the examination is 8:30. Duration of the 1st exam 1:50. 1st part of the exam ends at: 1 8:30 + 1:50 50 min + 30 min = 1 hr 20 min 10:20 Duration of the break period is 0:20. Break ends that: 10:20 + :20 10:40 Duration of the 2nd examination is 1:15 Examination ends at: 10:40 + 1:15 11:55 Examination ends at 11:55 a.m.				
31.	The semi-circle PQRT with radius 7 cm fits inside the rectangle PRSU as shown in the diagram below.  Calculate the perimeter of the rectangle PRSU. **Answer: 42 cm**	 The distance from Q to T is 7 cm, since it is the length of the radius of the circle, PQ. The width of the rectangle PU = 7 cm, since it is the same length as QT. Diameter PR $= 7 \times 2 = 14$ cm and is the length of the rectangle. Perimeter of the rectangle $= 2(\text{Length}+\text{Width})$ $= 2(14+7)$ $= 2(21)$ $= 42$ cm				

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
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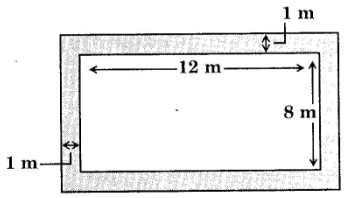
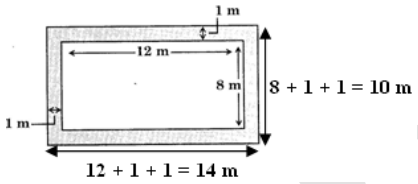
32.	a) Ram's garden plot is 12m long and 8m wide. What is the area of the garden? **Answer: 96 m^2** b) Ram makes a path 1 m wide around the garden as shown below.  Calculate the area of the path (shaded). **Answer: 44 m^2**	a) Area of the rectangular garden plot $= \text{Length} \times \text{Width}$ $= 12\ \text{m} \times 8\ \text{m}$ $= 96\ \text{m}^2$ b)  Length of the path = (Length of garden + 1 + 1)m = 14 m Width of the path = (Width of garden + 1 + 1)m = 10 m Area of path = Area of outer rectangle – Area of garden $= (14 \times 10)\ \text{m}^2 - 96\ \text{m}^2$ $= (140 - 96)\ \text{m}^2$ $= 44\ \text{m}^2$				

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33.	Jane has an EQUAL number of \$20, \$10, \$5 and \$1 bills. a) What is the LEAST amount that Jane could have? **Answer: \$36** b) If Jane has \$144.00, how many of EACH type of bill does she have? **Answer: 4 of \$20 bills, 4 of \$ 10 bills, 4 of \$5 bills and 4 of \$1 bills**	a) Jane has an equal number of \$20, \$10, \$5 and \$1 bills. Jane would have at least one of each bill. Total money would be: $\$20 \times 1 = \$20$ $\$10 \times 1 = \$10$ $\$5 \times 1 = \$\ 5$ $\$1 \times 1 = \$\ 1$ $\$36$ b) Jane has a total of \$144. Notice $\$144 = 4 \times \$36$ So, Jane has 4 times the number of bills that she may have had when her total was \$36. Jane would now have $4 \times \$20$ bills = \$80 $4 \times \$10$ bills = \$40 $4 \times \$5$ bills = \$20 4 of \$1 bills = \$ 4 Total = \$144				
34.	Ali borrowed \$5000.00 from the bank for a period of 3 years at a rate of 8% per annum. a) Calculate the simple interest that Ali must repay. **Answer: \$1200** b) How much money must Ali repay the bank at the end of 3 years? **Answer: \$6200**	a) The amount of money borrowed = \$5000 (Principal) The time of the loan = 3 years The rate of interest = 8% per annum Simple interest $= \frac{Principal \times Rate \times Time}{100}$ $= \frac{\$5000 \times 3 \times 8}{100}$ =\$1 200 b) The amount of money to be repaid = Principal + Interest = \$5000 + \$1200 = \$6200				

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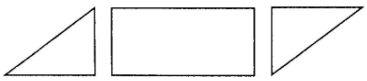
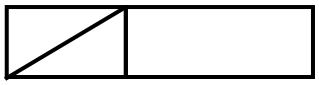
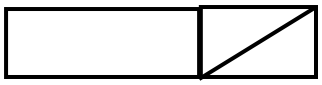
No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*			
				KC	AT	PS
35.	Karie's father promised to give her \$4.00 for every \$10.00 she saved. Karie saved \$60.00. a) How much money does her father have to give her? **Answer: \$24.00** b) How much money would she have ALTOGETHER? **Answer: \$84.00**	a) Karie saved \$60 $\$60 = \$10 \times 6$ For every \$10.00 saved, Karie receives \$4.00 from her father. Since Karie saved \$10 six times She will receive four dollars six times $\$4 \times 6 = \$24$ b) The amount of money Karie has altogether will be the amount that she saved on her own added to the amount that her father gave to her = \$60 + \$24 = \$84				
36.	Sheldon has the following plane shapes.  Draw a diagram to show how Sheldon can fit the three shapes together to form a new rectangle. **Answer:** 	We assume that the two given triangles are right-angled and congruent. That is,  The above rectangle is placed alongside the given rectangle. The new rectangle formed is :  OR 				

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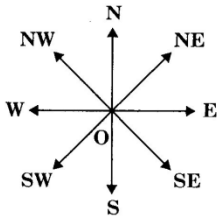
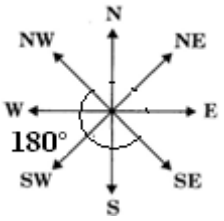
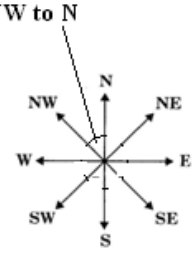
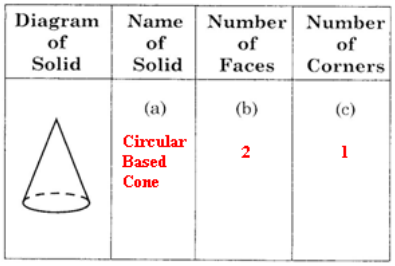
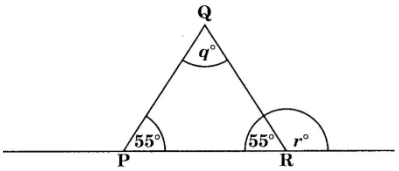
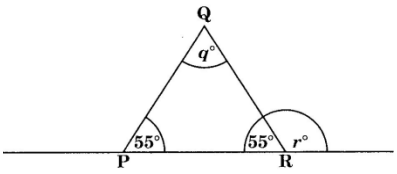
No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS
37.	Sasha is facing SE. She turns in a clockwise direction to face NW.  a) What fraction of a whole turn does Sasha make? **Answer: $\frac{1}{2}$** b) How many MORE degrees must she turn in order to face North? **Answer: 45°**	a)  To rotate from SE to NW, Sasha would rotate through 180° or $\frac{1}{2}$ of a turn since 1 complete turn is 360° and this is $\frac{180°}{360°}=\frac{1}{2}$ turn b) **Turn made from NW to N**  The turn made from NW to N $=\frac{1}{8}$ of a complete turn $=\frac{1}{8}\times 360°$ $=45°$ (This is assuming that she turns in a clockwise direction)				
38.	Complete the table below.  	a) The name of the solid is a cone or a circular based cone. b) The number of faces = 2 (The circular base and the curved surface) c) The number of corners = 1, also called and apex or vertex.				

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS
39.	Study the diagram below and answer the questions that follow.  a) Calculate the value of ***q*** and ***r***. **Answer: q = 70 and r = 125** b) Circle the term which best describes the triangle PQR. Equilateral Right-angled (Isosceles) Scalene	 a) Angle q is one angle of triangle PQR In the triangle PQR, the sum of the given angles is: $55° + 55° = 110°$ The sum of all the angles in a triangle is 180°. Therefore, $110^0 + q^0 = 180^0$ $q^0 = 180^0 - 110^0$ $q^0 = 70^0$ The value of q is 70 The angle r is part of a straight angle at the point R. A straight angle = 180°. $55° + r° = 180°$ $r° = 180° - 55^c$ $= 125°$ $r = 125$ b) In triangle PQR only two angles are equal. Therefore, exactly two sides are also equal. Hence, the triangle is isosceles and we circle 'Isosceles'.			

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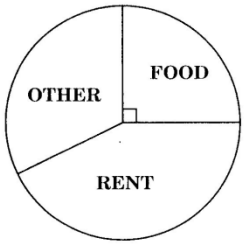
No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS
40.	The pie chart below shows how Mr. Samuel spends his salary for the month.  Calculate his monthly salary if he spends \$1800.00 on food. **Answer: \$7200**	The angle of the sector representing 'food' on the pie chart is 90°. The fraction of the pie chart that represent food $= \frac{90°}{360°}$ $= \frac{1}{4}$ The amount spent on food is $\frac{1}{4}$ of Mr. Samuel's salary. $\frac{1}{4}$ of Mr. Samuel's monthly salary = \$1800 Hence, Mr. Samuel's monthly salary $= \$1800 \times 4$ $= \$7200$				

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Section III

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS

41. Richie's marks for the three subjects in an examination are shown on his report below.

Richie's Report

Subject	Maximum Marks	Marks Obtained
Essay	100	70
Mathematics	100	80
Language Arts	100	60
Total	**300**	

a) Calculate the TOTAL marks Richie obtained for examination.

Answer: 210 marks

b) Express the total marks that Richie obtained as a percentage of the maximum marks for the test.

Answer: 70%

c) How many MORE marks did Richie need in order to get 80% on the test?

Answer: 30 marks

a) The total marks obtained in the examination
= Mark for essay + Mark for Mathematics + Mark for Language Arts
= 70 + 80 + 60
= 210

b) Maximum marks on test = 300
The marks obtained by Richie for the examination= 210

Richie's mark as a percentage of the maximum marks

$$= \frac{210}{300} \times 100$$
$$= 70\%$$

c) To get 80% on the test Richie would have had to score

$$80\% \text{ of } 300 = \frac{80}{100} \times 300$$
$$= 240$$

Richie scored only 210.
Richie would have needed
240 – 210 = 30 more marks.

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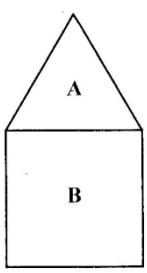
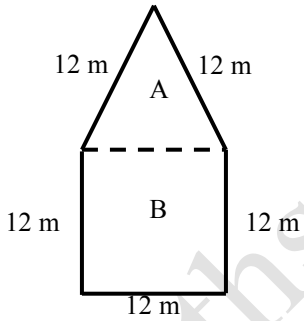
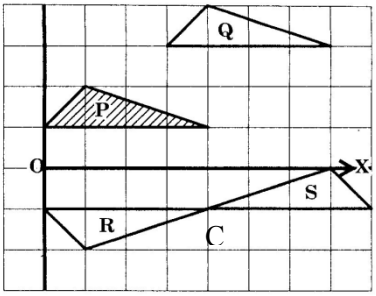
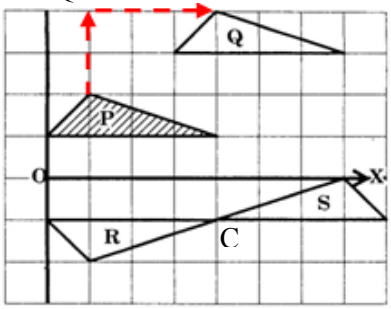
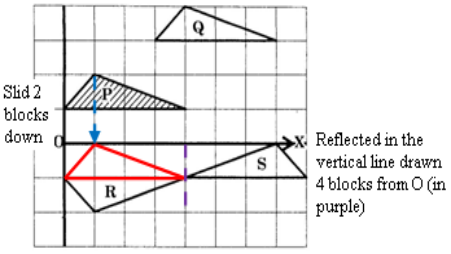
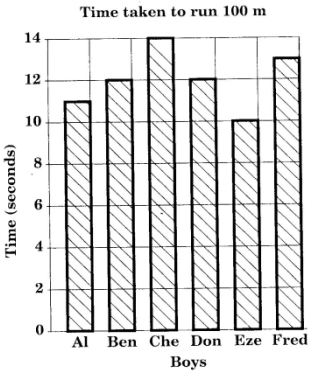
No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS
42.	At a fair, four plastic bottles with numbers on them are lined up as shown below.  For every turn, a person is given three balls to knock down three bottles. The numbers are added and a toy is given for some EXACT scores as shown on the table below. **Toy** / **Score** Rabbit — 49 Bear — 46 Parrot — 40 Monkey — 39 a) Candy knocks down three bottles marked 18, 9 and 12. Which toy does she win? **Answer: Monkey** b) Candy wants to win the bear. Which THREE bottles should she knock down? **Answer: 9, 19 and 18** c) Candy knocks down the bottle marked 9. Which toy will she NOT be able to win? **Answer: Rabbit**	a) Candy' scores were 18, 9 and 12. Total score = 18 + 9 + 12 = 39 Candy wins a monkey according to the given table. b) To win a bear Candy requires a score of exactly 46. The sum of three of the four numbers 9, 19, 12 and 18 must total 46. These are 9, 19 and 18, since 9 + 19 + 18 = 46 c) Candy knocks down the bottle marked 9. Candy's three scores could be: 9, 19, 12 – which totals 40 and would give a parrot. **OR** 9, 19 and 18 which totals 46 and would give a bear. **OR** 9, 12 and 18 which totals 39 and would give a monkey. We can see that Candy would not be able to win a rabbit.				

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here* KC	AT	PS
43.	The shape of a floor shown below has two portions, as equilateral triangle (A) attached to one side of a square (B) with sides 12 m.  a) Complete the following statement: The perimeter of the ENTIRE floor is 60 m. b) The square portion (B) ONLY is to be covered with tiles. i. The area of B is 144 m^2. ii. B is to be covered using square tiles with sides measuring 30cm. How many tiles are needed? **Answer: 1 600 tiles** iii. One of the tiles to be used for covering B costs \$4.00. How much will the tiles cost if 10 extra ones are added in case any break? **Answer : \$6440**	a) Since triangle A is equilateral, all sides are equal. Each side of the square B is of length 12 m. Each side of the equilateral triangle, A is 12 m.  The perimeter of the floor is the sum of the lengths of 3 sides of the square, B and 2 sides of the triangle, A = 12 + 12 + 12 + 12 + 12 = 60 m b) i) Area of the square B $= Side \times Side$ $= 12 \times 12\ m^2 = 144m^2$ ii) Length of the side of each square tile = 30 cm $= \frac{30}{100} = 0.3$ m Area of each tile $= 0.3 \times 0.3\ m^2$ $= 0.09\ m^2$ Number of tiles to be used to cover B $= \frac{Area\ of\ B}{Area\ of\ 1\ tile}$ $= \frac{144}{0.09} = \frac{14400}{9} = 1600$ 1 600 tiles are needed iii) Number of tiles required to cover B = 1600 + 10 = 1610 Cost of 1 tile \$4.00 Cost of 1610 tiles= $\$4 \times 1610 = \$6440$			

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here* KC	AT	PS
44.	Complete Akeem's shopping bill below.	a) The cost of 3 boxes of crayons at \$4.50 per box $= \$4.50 \times 3$ $= \$13.50$ b) The cost of the crayons and the stickers is \$21.50. Cost of the stickers only = Total cost of crayons and stickers – Cost of crayons = \$21.50 - \$13.50 = \$8.00 Cost of 1 sticker = \$0.40 The number of stickers bought $= \frac{\text{Cost of all stickers}}{\text{Cost of 1 sticker}}$ $= \frac{\$8.00}{\$0.40}$ $= 20$ c) VAT = 10 % of the total $= 10\%$ of \$21.50 $= \frac{10}{100} \times \$21.50$ $= \$2.15$			

	Item	Quantity	Cost	Amount Paid
(a)	Crayons	3 boxes	\$4.50 per box	\$13.50 (1 mark)
(b)	Stickers	20 (2 marks)	40¢ each	\$8.00 (1 mark)
	Total			\$21.50
(c)	VAT		10%	\$2.15 (1 mark)

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS
45.	The shaded triangle at P is moved to various positions Q, R and S.  Describe CLEARLY the movements in EACH of the following: a) P to Q **Answer: Translation of 2 units upwards and 3 units to the right.** b) R to S **Answer: Rotation of 180^0 about C** c) P to S **Answer: Translation of 2 units downwards and a reflection in the vertical mirror line passing through C.**	a) P to Q  Triangle Q has the same orientation as P, that is, it is not flipped or rotated. The movement from P to Q is a translation. The movement was 2 units vertically upwards and 3 units horizontally to the right. b) R to S. S is turned with respect to R. The movement from R to S is a half turn or rotation about C. c) P to S  Firstly P is moved to a new position, shown by a translation of 2 units downwards. The image is then reflected (or flipped) in the vertical mirror line (dotted) shown to obtain S.				

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS
46.	Six boys ran a 100 m race. The time (in seconds) taken by each boy is shown in the graph below.  a) Who won the race? **Answer: Eze** b) For which position were two boys tied? **Answer: Third place** c) Who was the SLOWEST runner? **Answer: Che** d) How long did the race last? **Answer: 14 seconds** e) How much longer than the first-place runner did the **slowest** boy take to run the race? **Answer: 4 seconds**	a) The person who won the race is the one who took the shortest time. The shortest bar indicates the shortest time. The shortest bar is seen at Eze's and so, Eze won the race. b) If two boys tied, they would have ran the race in the same time. Both Ben and Don ran the race in the same time as their bars are equal in height. Their bars indicate that they place third (Both Eze and Al had better times). Therefore, both Ben and Don tied for third place. c) The slowest runner took the longest time and would correspond to the tallest bar. This corresponds to Che. Therefore, Che was the slowest runner. d) The race would have lasted for the length of time taken for the slowest runner to complete it. The slowest runner was Che. Che took 14 seconds. Therefore, the race lasted 14 seconds. e) The fastest boy, Eze, took 10 seconds. The slowest boy, Che, took 14 seconds. Therefore, the slowest runner took (14 – 10) seconds = 4 seconds more than the first-place runner to run the race.				