FAS-PASS
Maths

SEA MATHS 2009
Section 1

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS
1.	Which digit in the numeral 71 463 represents TENS? **Answer: 6**	Placing the digits according to their place values, we note: T Th | Th | H | Tens | Ones 10 000 | 1 000 | 100 | 10 | 1 7 | 1 | 4 | 6 | 3 The TENS DIGIT is 6.				
2.	Write the numeral for the number **one million two hundred and three thousand and four.** **Answer: 1 203 004**	One million 1 000 000 Two hundred and 3 thousand 203 000 Four ones 4 1 203 004 Millions | Thousands | Ones M | H Th | T TH | Th | H | T | O 1000000 | 100000 | 10000 | 1000 | 100 | 10 | 1 1 | 2 | 0 | 3 | 0 | 0 | 4				
3.	Calculate: 568×15 **Answer: 8520**	$\begin{array}{r} 568 \\ \times 15 \\ \hline 5680 \\ + \\ \underline{2840} \\ 8520 \end{array}$				
4.	Calculate: $2.4 \div 0.8$ **Answer: 3**	We can rewrite the division using a fraction format: $\frac{2.4}{0.8} = \frac{2.4 \times 10}{0.8 \times 10} = \frac{24}{8} = 3$ Note: It is convenient to have a whole number in the denominator, this can be done by multiplying both numerator and denominator by 10.				

By Fayad W. Ali and Shereen A. Khan.

<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>5.</td><td>Carla scored 60 marks out of 75 on a Mathematics test.

Express Carla's score as a percentage.

Answer: 80%</td><td>Maximum marks possible on the test = 75
The score made by Carla = 60.
Carla's score as a percent of the total:
$= \frac{\text{Marks scored}}{\text{Maximum mark}} \times 100$
$= \frac{60}{75} \times 100$
$= 80\%$</td><td></td><td></td><td></td><td></td></tr>
<tr><td>6.</td><td>Circle the LARGEST decimal fraction in the set below.

0.43 0.6 0.079

Answer:

0.43 0.6 0.079</td><td>We enter the decimal fractions in a decimal place value chart as follows:

<table><tr><th>Ones</th><th>Tenths</th><th>Hundredths</th><th>Thousandths</th></tr><tr><td>1</td><td>0.1</td><td>0.01</td><td>0.001</td></tr><tr><td>0</td><td>4</td><td>3</td><td>0</td></tr><tr><td>0</td><td>6</td><td>0</td><td>0</td></tr><tr><td>0</td><td>0</td><td>7</td><td>9</td></tr></table>
The place values in order of size is;
Tenths, Hundredths, Thousandths.
0.43 has 4 tenths
0.6 has 6 tenths
0.079 has 0 tenths
Therefore, 0.6 is the largest.</td><td></td><td></td><td></td><td></td></tr>
<tr><td>7.</td><td>Each number in the pattern below is formed by removing 1 digit from the number above it.

<table><tr><td>57 896</td></tr><tr><td>5 786</td></tr><tr><td>576</td></tr><tr><td></td></tr></table>
Fill in the box to complete the pattern.
Answer:

<table><tr><td>57 896</td></tr><tr><td>5 786</td></tr><tr><td>576</td></tr><tr><td>56</td></tr></table></td><td>5 7 8 9 6
5 7 8 6 The tens digit is removed from the number directly above
5 7 6 The tens digit is removed from the number directly above

Therefore, the next number in the pattern should be obtained by removing the 'tens digit' from the number directly above, to get 56.</td><td></td><td></td><td></td><td></td></tr>
</table>

By Fayad W. Ali and Shereen A. Khan.

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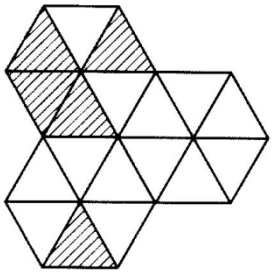
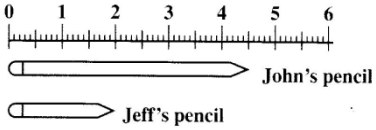
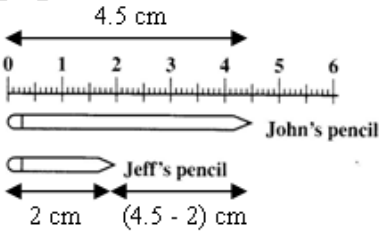
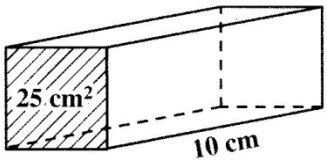
8.	What FRACTION of the entire shape below is shaded?  **Answer:** $\frac{5}{18}$	The entire shape is composed of shaded and un-shaded equilateral triangles. The total number of triangles, both shaded and un-shaded, in the shape is 18 The number of shaded triangles is 5 The fraction of the shape that is shown shaded $= \frac{\text{Number of shaded triangles}}{\text{Total number of triangles}}$ $= \frac{5}{18}$				
9.	How many centimetres LONGER is John's pencil than Jeff's pencil?  **Answer: 2.5 cm**	John's pencil measures 4.5 cm. Jeff's pencil measures 2 cm. John's pencil is $(4.5 - 2)$ cm = 2.5 cm longer than Jeff's pencil. 				
10.	The length of the cuboid below is 10 cm. The area of the shaded face is 25 cm^2.  Calculate the volume of the cuboid. **Answer: 250 cm^3**	Volume of the cuboid $=$ Area of shaded face $\times$ Length $= (25 \times 10)$ cm^3 $= 250$ cm^3				

By Fayad W. Ali and Shereen A. Khan.

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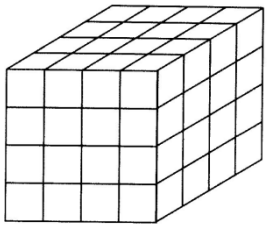
11.	The cost of a football and a cricket ball are shown below: **Football**  **\$199.00** **Cricket ball**  **\$72.50** How much MORE does the football cost than the cricket ball? **Answer: \$126.50**	The football costs \$199.00 The cricket ball costs \$72.50 The football costs more that the cricket ball. The football costs (\$199.00 - \$72.50) more than the cricket ball. \$199.00 – \$ 72.50 \$126.50 Hence, the football costs \$126 .50 more than the cricket ball.				
12.	Kyle started a test at 9:45 a.m. and finished at 11:30 a.m. How long did he take to complete the test? **Answer: 1 hour 45 minutes**	Finish time on test = 11:30 a.m. Start time = 9:45 a.m. Time taken to complete the test is found by subtraction. Hr min 10 90 ← 1 hr + 30 min = 90 min ~~11~~ ~~30~~ - 9 45 1 45				
13.	The large cube below is built with small 1 cm^3 blocks.  What is the volume of the cube? **Answer: 64 cm^3**	Each small cube has a volume of 1 cm^3. The large cube has 4 small cubes along its length, 4 along its width and 4 along its height. Volume of the large cube $= (4 \times 4 \times 4)\ cm^3$ $= 64\ cm^3$				

By Fayad W. Ali and Shereen A. Khan.

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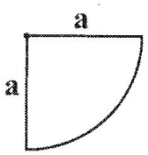
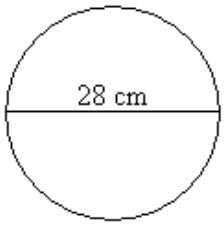
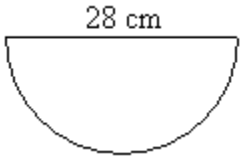
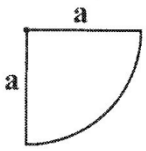
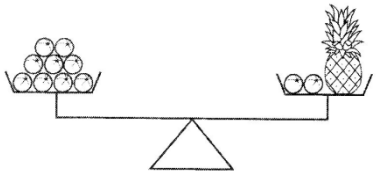
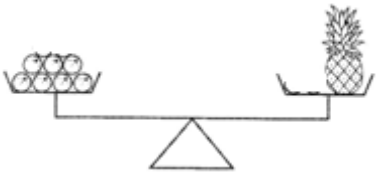
14.	A piece of paper in the shape of a circle has a diameter of 28 cm. The paper is folded equally 2 times to form the shape below.  What is the length of the side **a**? **Answer: 14 cm**	The original circle has a diameter of 28 cm as shown:  When folded once, the paper becomes semi-circular:  When folded a second time, the paper becomes a quarter circle, with radius, **a**,  The radius of a circle is one half of the diameter The diameter of the circle = 28 cm The radius of the circle = $28 \div 2 = 14$ Length of **a** = 14 cm				
15.	The scale below is balanced. EACH orange weighs 120 g.  What is the weight of the pineapple? **Answer: 840 g**	The scale is balanced with 9 oranges on one side and 2 oranges and 1 pineapple on the other side. If we remove 2 oranges from both sides of the scale, it will still be balanced.  Therefore, 7 oranges are equal in weight to 1 pineapple. So, 1 pineapple weighs the same as the total weight of 7 oranges. $= 7 \times 120$ g $= 840$ g				

By Fayad W. Ali and Shereen A. Khan.

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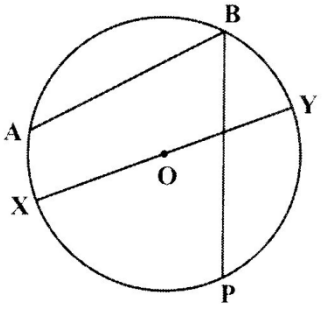
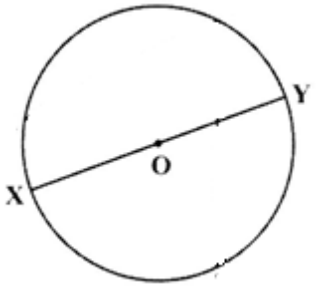
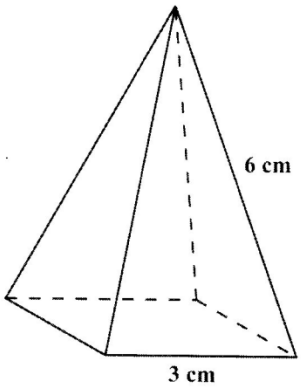
16.	The diagram below shows a circle with centre, O.  Identify the line of symmetry shown in the circle. **Answer: XY**	 Since O is the centre of the circle, and XY passes through O, then XY is a diameter. When a circle is folded along a diameter both parts will overlap exactly. Hence XY is a line of symmetry.				
17.	A solid with a square base is shown below.  How many edges measure 3 cm? **Answer: 4 edges**	Only the four sides or edges of the square base would measure 3 cm.				

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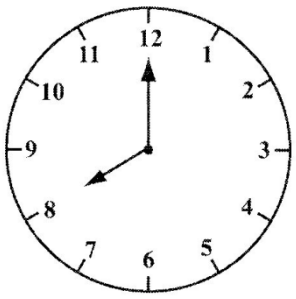
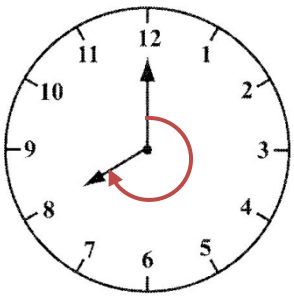
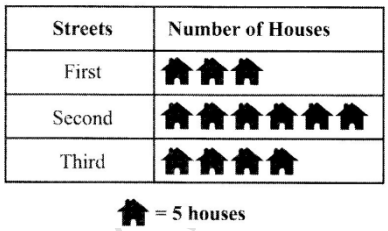
18.	What is the size of the LARGER angle formed between the hands on the clock face shown below?  **Answer: 240 degrees**	 1 complete revolution = 360°. As the hand rotates from one number to the next, it turns through12 equal angles. Size of each angle = $360^0 \div 12 = 30^0$. The larger angle, shown above is made up of 8 equal angles of 30^0. Therefore, the size of the larger angle between the hands of the clock, $8 \times 30^0 = 240^0$			
19.	The pictograph below shows the number of houses on three streets in a village.  **= 5 houses** Calculate the TOTAL number of houses on the three streets. **Answer: 65 houses**	Since the single picture of a house indicates 5 houses: On the first street there are $3 \times 5 = 15$ houses On the second street there are $6 \times 5 = 30$ houses On the third street there are $4 \times 5 = 20$ houses Total number of houses on all three streets $= (15 + 30 + 20)$ houses $= 65$ houses **OR** Total number of house pictures = 13 1 picture represents 5 houses Therefore, number of houses = 13 × 5 = 65 houses			

By Fayad W. Ali and Shereen A. Khan.

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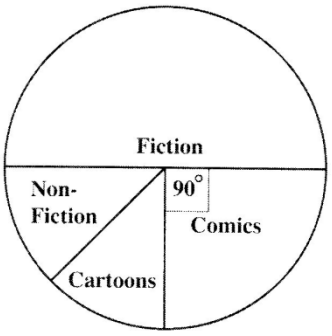
20.	The pie chart below represents the types of books that Jim reads in a month.  If Jim reads 12 comic books, how many books does he read ALTOGETHER? **Answer: 48 books**	The angle at the centre of a circle is 360°. The angle representing comic books is 90° 90° is one quarter of 360° If 90° represents 12 books 360^0 represents 12 books × 4 Total number of books read by Jim = 12 books × 4 = 48 books Altogether, Jim reads 48 books.				

By Fayad W. Ali and Shereen A. Khan.

Section II

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21.	Mr. Chin's supermarket has 15 rows of canned peas. Each row has 25 cans. Calculate the TOTAL number of cans of peas in the supermarket. **Answer: 375 cans**	Number of rows of peas = 15 Number of cans per row = 25 Total number of cans $=$ Number of rows $\times$ Number of cans per row $=15\times 25$ $=375$			
22.	Four fractions are given below. $\frac{1}{3},\quad \frac{1}{4},\quad \frac{5}{6},\quad \frac{5}{12}$ Which THREE of these fractions when added result in a whole number? **Answer:** $\frac{1}{3}, \frac{1}{4}$ and $\frac{5}{12}$	The four given fractions are: $\frac{1}{3}, \frac{1}{4}, \frac{5}{6}$ and $\frac{5}{12}$. Let us consider the denominators of each fraction, these are 3, 4, 6 and 12. A common denominator is 12. If we express each fraction in twelfths it is easy to compare them. We take $\frac{1}{3}$ and express it as $\frac{?}{12}$. Then repeat the process for the others. $\frac{1}{3}=\frac{?}{12}$ ($\times 4$ above, $\times 4$ below) $\quad \frac{1}{3}=\frac{4}{12}$ Since $3 \times 4 = 12$, 4 is the multiplier Similarly, $\frac{1}{4}=\frac{3}{12}$ $(\times 3)$ and $\frac{5}{6}=\frac{10}{12}$ $(\times 2)$ So, the original fractions $\frac{1}{3}, \frac{1}{4}, \frac{5}{6}, \frac{5}{12}$ can be expressed as $\frac{4}{12}, \frac{3}{12}, \frac{10}{12}, \frac{5}{12}$ To make up one whole we choose: $\frac{4}{12}+\frac{3}{12}+\frac{5}{12}=\frac{12}{12}=1$			

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23.	A class is building 6 model houses with lollipop sticks. Each house requires 879 lollipop sticks. Lollipop sticks are sold in packs of 100. How many packs of sticks are needed to build these houses? **Answer: 53 packs**	Number of sticks required per house = 879 Number of houses being built = 6 Number of sticks required $= 879 \times 6 = 5\,274$ The number of packs to be bought $= 5\,274 \div 100$ = 52 and remainder 74 Number of packs required is 52 full packs and 74 sticks from a 53rd pack. Number of packs of sticks required = 53				
24.	A class has 40 students. If 16 students are boys. What PERCENTAGE of the class are girls? **Answer: 60%**	Total number of students in class = 60 Number of boys = 16 The number of girls = Total number of students – Number of boys $= 40 - 16$ $= 24$ Percent of girls in the class: $= \frac{\text{Number of girls}}{\text{Total number of students}} \times 100$ $= \frac{24}{40} \times 100$ $= 60\%$ **OR** The percent of boys in the class $= \frac{\text{Number of boys}}{\text{Total number of students}} \times 100$ $= \frac{16}{40} \times 100$ $= 40\%$ Hence the percentage that is girls $= (100 - 40) = 60\%$				

By Fayad W. Ali and Shereen A. Khan.

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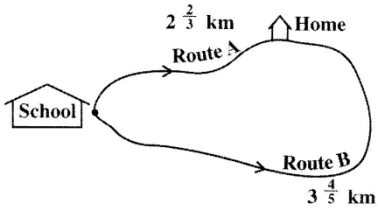
25.	The diagram below shows two routes that Moe can walk to get from school to home.  How much longer is Route B than Route A? **Answer:** $1\frac{2}{15}$ **km**	From school to home by Route A = $2\frac{2}{3}$ km From school to home by Route B $= 3\frac{4}{5}$ km. Route B is longer. Route B is longer by $\left(3\frac{4}{5}-2\frac{2}{3}\right)$ km $=3\frac{4}{5}-2\frac{2}{3}$ $=3\frac{12}{15}-2\frac{10}{15}$ $=3-2+\frac{12}{15}-\frac{10}{15}$ $=1\frac{2}{15}$ Route B is $1\frac{2}{15}$ km longer than Route A.				
26.	Mary has \$40.00. One half $\left(\frac{1}{2}\right)$ of Mary's money is equal to $\frac{2}{3}$ of Susie's money. a) How much money does Susie have? **Answer: \$30.00** b) How much is $\frac{3}{8}$ of Mary's money? **Answer: \$15.00**	a) Mary has \$40.00 $\frac{1}{2}$ of Mary's money $=\frac{1}{2}\times\$40.00$ $=\$20.00$ Two thirds of Susie's money = \$20.00 One third of Susie's money = \$10 Three thirds of Susie's money = \$10 × 3 = \$30 b) $\frac{3}{8}$ of Mary's money: $=\frac{3}{8}\times\$40.00$ $=\frac{3}{\cancel{8}}\times\$\cancel{40.00}^{5}$ $=\$15.00$				

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27.	In a town of 3 000 people, 40% are children. 70% of the children are boys, how many girls are there in the town? **Answer: 360 girls**	The population of the town = 3000 40% of the population are children Number of children = 40% of 3000 $= \frac{40}{100} \times 3000$ $= 1200$ 70% of the children are boys. The percentage of the children that are girls = (100 – 70)% = 30% The number of girls = 30% of 1200 $= \frac{30}{100} \times 1200$ $= 360$ girls **OR** We may find the number of boys as 70% of 1200 $= \frac{70}{100} \times 1200$ $= 840$ Number of girls = Number of children – Number of boys = 1200 – 840 = 360 girls				

By Fayad W. Ali and Shereen A. Khan.

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28.	A library has 1 200 books. Of these, $\frac{1}{4}$ are magazines and $\frac{2}{5}$ are story books. The remainder is textbooks. a) How many magazines are there in the library? **Answer: 300 magazines** b) How many text books are there in the library? **Answer: 420 text books**	Number of books in the library = 1200 $\frac{1}{4}$ of the books are magazines a) Number of magazines $= \frac{1}{4}$ of 1200 $= \frac{1}{4} \times 1200$ $= 300$ magazines b) $\frac{2}{5}$ of the books are story books Number of story books $= \frac{2}{5} \times 1200$ $= 480$ story books Number of magazines + Number of story books = 300 + 480 = 780 Number of text books =1200 – 780 = 420 text books **OR** Total fraction that comprises magazines and story books only $= \frac{1}{4} + \frac{2}{5}$ $= \frac{5}{20} + \frac{8}{20} = \frac{13}{20}$ Fraction that comprises text books $= 1 - \frac{13}{20} = \frac{7}{20}$ Number of text books $= \frac{7}{20} \times 1200$ $= 420$ text books				

By Fayad W. Ali and Shereen A. Khan.

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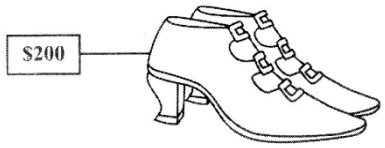
29.	At a party of 20 children each drank 250 millilitres (ml) of lemonade. How many LITRES of lemonade did they drink ALTOGETHER? **Answer: 5 litres**	20 children each drank 250 ml of lemonade. Together they drank $= 250 \times 20$ ml $= 5000$ ml 1000 ml = 1 litre So 5000 ml $= \frac{5000}{1000}$ litres $= 5$ litres **OR** Each child drank $\frac{250}{1000} l = \frac{1}{4} l$ 20 children drank $20 \times \frac{1}{4} l = 5l$				
30.	SALE: Buy 1 pair of shoes and get 50% off the second pair  Jenny bought two pairs of the shoes shown above at the sale. How much did she pay for BOTH pairs? **Answer: $300**	Cost of 1st pair of shoes = $200 The shoes are the same and so the price of the second pair would be the same, before the discount. The 2nd pair of shoes will now cost 50% of $200 $= \frac{50}{100} \times \$200$ $= \$100$ Both pairs will cost a total of $200 + $100 = $300				

By Fayad W. Ali and Shereen A. Khan.

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31.	A book has 60 pages. Michael reads 3 pages in 2 minutes. How long will it take him to finish the book? **Answer: 40 minutes**	Michael reads 3 pages in 2 minutes. Since Michael read 60 pages, so he would have read $60 \div 3 = 20$ sets of 3 pages. Every 3 pages takes 2 minutes 20 sets of 3 pages will take 20×2 minutes Michael will read 60 pages in 40 minutes				
32.	The diagram below shows the cost of three stuffed toys.  POOH BEAR TIGGER PIGLET Grandma has $200. She buys stuffed toys for her grandchildren. a) How much does Grandma pay for 2 Tiggers and 1 Pooh Bear? **Answer: $125.00** b) How many Piglets can she purchase with the REMAINING money? **Answer: 2 piglets**	a) Cost of 2 Tiggers @ $40.00 each $= \$40.00 \times 2$ $= \$80.00$ Cost of 1 Pooh Bear = $45.00 Total cost of 2 Tiggers and 1 Pooh Bear $= \$ \ 80.00 +$ $\$ \ 45.00$ $\$125.00$ b) Grandma has $200. After buying 2 Tiggers and 1 Pooh Bear, Grandma will have $200 - $125 = $75 remaining Now, 2 piglets cost = $30 + $30 = $60 3 piglets cost= $30 + $30 + $30 = $90 With $75, Grandama can purchase only 2 piglets.				

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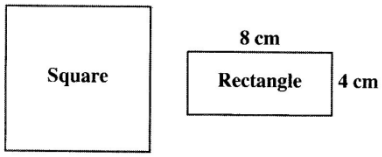
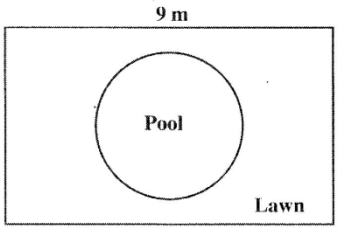
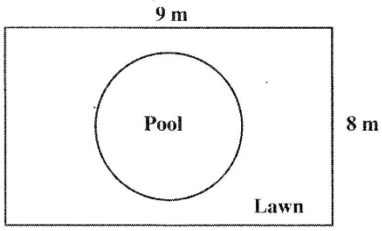
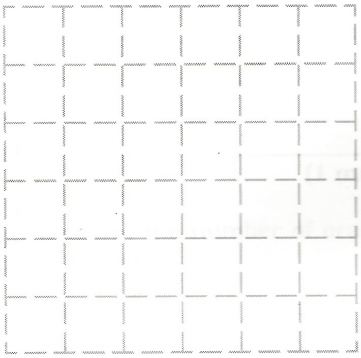
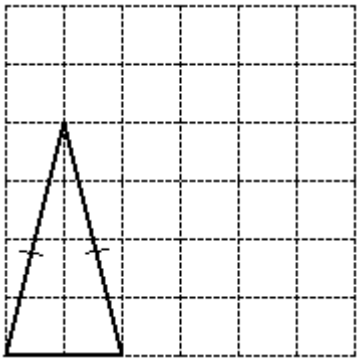
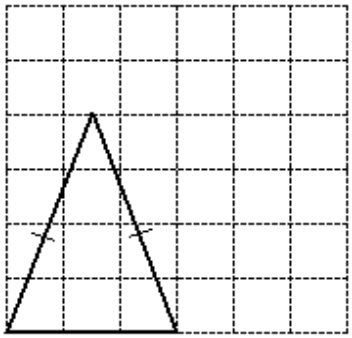
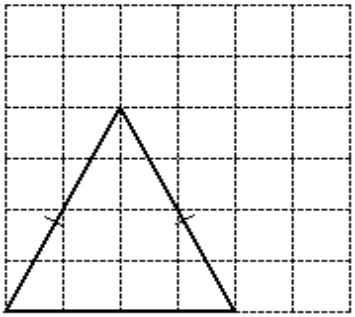
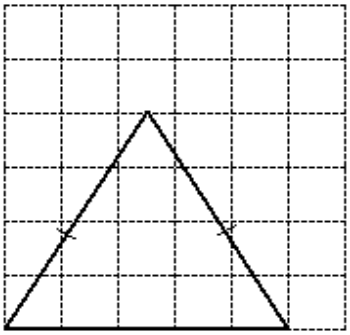
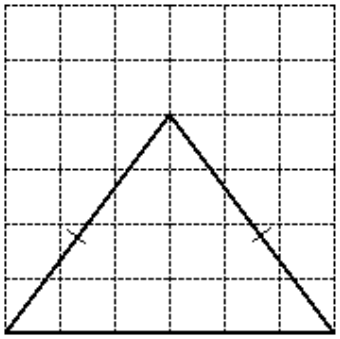
No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*			
				KC	AT	PS
33.	A square and a rectangle are shown below. The perimeter of the square is twice the perimeter of the rectangle.  a) Calculate the perimeter of the square. **Answer: 48 cm** b) Calculate the length of ONE side of the square. **Answer: 12 cm**	a) Perimeter of a rectangle = 2 (Length + Width) $= 2(8+4)$ cm $= 24$ cm Perimeter of the square = 2 × Perimeter of rectangle $= 2 \times 24$ cm $= 48$ cm b) Perimeter of a square = 4 × length of side Perimeter of the square = 48 cm Length of side of square $= \frac{48 \text{ cm}}{4}$ $= 12$ cm				
34.	The total mass of mangoes and oranges in a bag is 2 kg. Each orange has a mass of 50 g and each mango has a mass of 200 g. the bag contains 6 mangoes. a) Calculate the TOTAL mass of the mangoes. **Answer: 1200 g** b) Calculate the number of oranges in the bag. **Answer: 16 oranges**	a) Total mass of 6 mangoes, each of mass 200 g $= 200 \times 6$ g $= 1200$ g b) Total mass of mangoes and oranges = 2 kg $= 2 \times 1000g$ [1kg = 1000g] = 2000 g The mass of oranges = Total mass – mass of mangoes $= 2000 - 1200$ g =800 g Each orange has a mass of 50 g. Number of oranges $= \frac{\text{Total mass of oranges}}{\text{Mass of 1 orange}}$ $= \frac{800 \text{ g}}{50 \text{ g}}$ $= 16$ oranges				

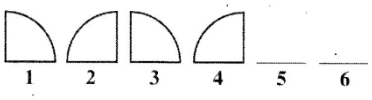
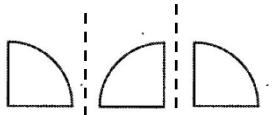
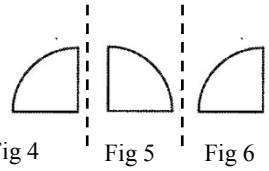
By Fayad W. Ali and Shereen A. Khan.

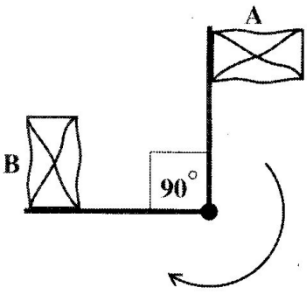
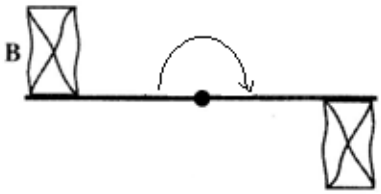
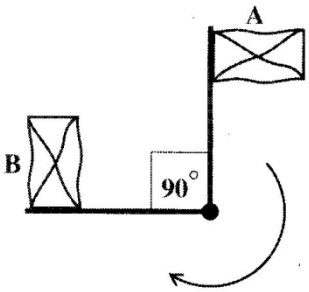
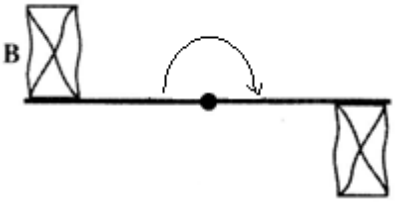
No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*			
				KC	AT	PS
35.	In Mr. Jerry's yard there is a pool with a lawn around it. The yard is 9 metres long and 8 metres wide as shown below.  a) Calculate the area of the entire yard. **Answer: 72 m²** b) The area of the pool is $\frac{1}{3}$ of the area of the yard. Calculate the area of the lawn. **Answer: 48 m²**	 a) Area of the entire yard = Area of the rectangle = Length × Breadth $= 9 \times 8 \text{ m}^2$ $= 72 \text{ m}^2$ b) Area of pool $= \frac{1}{3}$ area of yard $= 72 \text{ m}^2 \div 3$ $= 24 \text{ m}^2$ Area of lawn = Area of entire yard – Area of pool $= 72 - 24 \text{ m}^2$ $= 48 \text{ m}^2$ **OR** Fraction of yard that is lawn $= 1 - \frac{1}{3}$ $= \frac{2}{3}$ One third of the area of the yard = 24 m² Two thirds the area of the yard = 48 m² Area of the lawn = 48 m²				

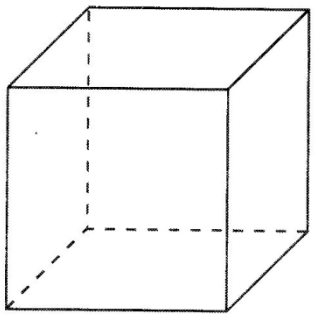
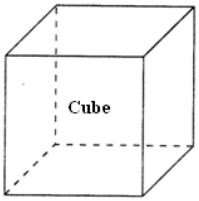
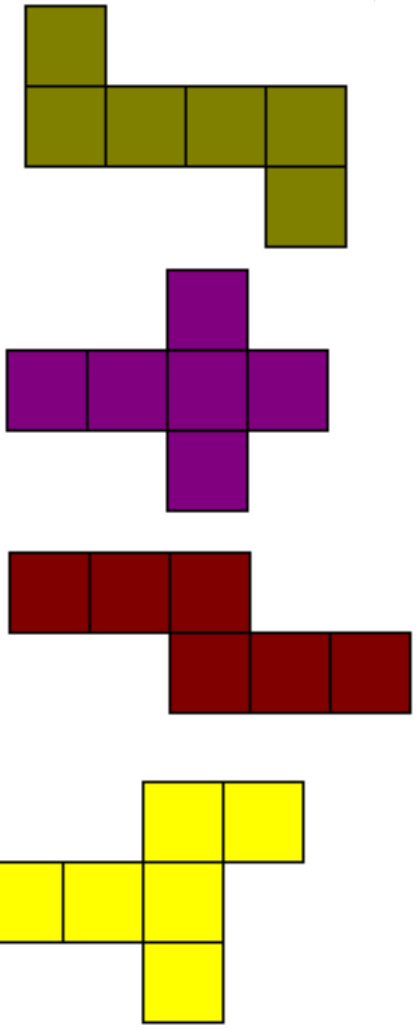
By Fayad W. Ali and Shereen A. Khan.

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS
36.	The grid below is made up of 1 cm squares. Draw an isosceles triangle with a HEIGHT of 4 cm on the grid.  **Answer:**  [Other solutions are shown in the working column]	The diagrams below each show an isosceles triangle of height 4 cm. The length of the base varies.    				

By Fayad W. Ali and Shereen A. Khan.

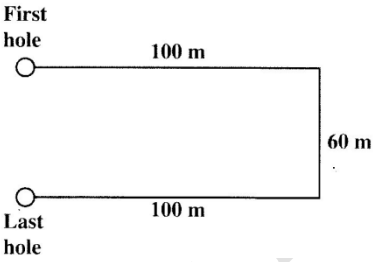
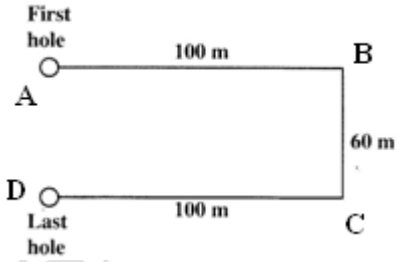
No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*			
				KC	AT	PS
37.	Study the pattern below.  a) Which movement transforms EACH shape to the next? **Answer: Reflection** b) Complete the shape that should appear in Position 6. 	a) If Figure 1 is flipped about a vertical line, it will appear as Figure 2. Similarly, if Figure 2 is flipped about a vertical line it will appear as Figure 3 and so on. The movement is a reflection in a vertical line.  Fig 1 Fig 2 Fig 3 b) The pattern is such that; Figures 1, 3 and 5 will be the same Figures 2, 4 and 6 will be the same The shape that should appear in Position 6 is  OR  Fig 4 Fig 5 Fig 6				

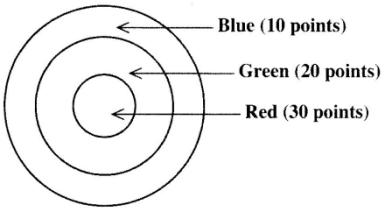
No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS
38.	The flag below was moved from Position A to Position B in the direction of the arrow.  a) What FRACTION of a complete turn was made? **Answer:** $\frac{3}{4}$ b) Through how many degrees was the flag turned? **Answer: 270°** c) The flag is moved 180° from Position B, draw its NEW position on the diagram above.  	a)  1 complete turn = 360° $\frac{1}{4}$ turn = 90^0 The arrow shows the angle turned, and the fraction of the complete turn is: $=1-\frac{1}{4}=\frac{3}{4}$ b) The angle through which the flag turns $=\frac{3}{4}\times 360^0$ $=270^0$ c) The flag is moved (rotated) through 180°. Its new position is shown in the diagram  				

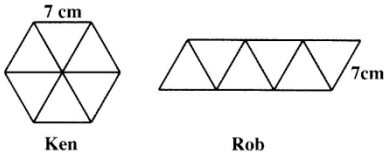
No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS
39.	The diagram below shows a paper toy in the shape of a cube. The base is a square.  a) How many faces does the paper toy have? **Answer: 6 faces** b) Draw the net of the paper toy.	a)  The paper toy is in the shape of a cube and has 6 faces. b) Several nets of a cube can be drawn. There are 11 in all. Four of these are shown below. 				

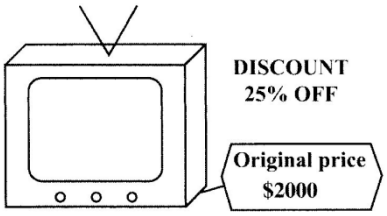
No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS
40.	The table below shows Pat's scores on four of her class tests. **Subject** / **Scores** Social Studies: 77 Art: 74 Science: 81 Maths: 78 English: ☐ Her average score on all five tests is 80. How much did she score in English? **Answer: 90 marks**	Pat's average score on 5 tests = 80 Pat's total marks on all 5 tests = Average score × Number of tests $= 80 \times 5$ $= 400$ marks Total scores on the 4 subjects in the given table $= 77 + 74 + 81 + 78$ $= 310$ marks Pat's score in English = Total score on all five subjects – total score on the four subjects given in the table $= 400 - 310$ $= 90$ marks				

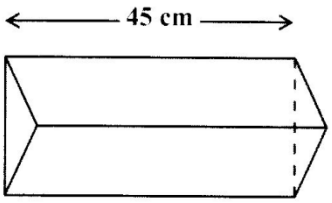
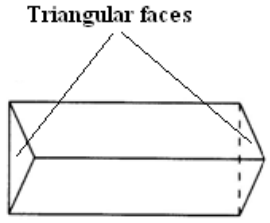
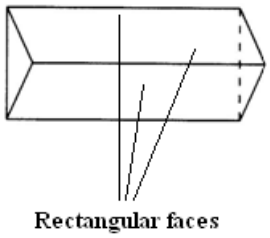
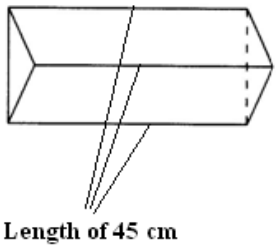
Section III

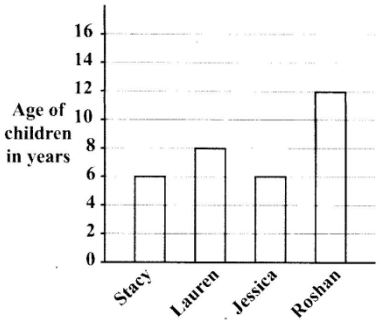
No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here* KC	AT	PS
41.	a) Street lights along a straight road are 20 m apart. What is the distance between the first street light and the tenth street light? **Answer: 180 m** b) A gardener decides to plant palm trees 10 m apart around a rectangular park. The park is 100 m long and 60 m wide. The diagram below shows where he digs the first and last holes for the first and last palm trees.  How many palm trees does he plant ALTOGETHER? **Answer: 27 trees**	a)  Each street light is 20 m apart. There are 9 equal distances of 20 m between the first and last street lights. Distance from the 1st to the 10th light: $= 20\text{ m} \times 9$ $= 180\text{ m}$ b)  Observe that the number of equal distances between the first and last trees will always be one less than the number of trees. Total distance from A to D = 100 + 60 + 100 = 260 m Plants 10 m apart The number of equal intervals of 10 m between the first and last trees is: $= \frac{260}{10} = 26$ The number of trees is one more than the intervals = 26 + 1 = 27 trees **[Note: if the counting were done in three stages, from A to B, then B to C and then C to D, care should be taken so that trees at points B and C are not counted twice.]**			

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS
42.	The diagram below shows the number of points awarded for striking the colours on a dartboard.  a) Tommy threw darts and struck green twice and red once. What was his TOTAL score? **Answer: 70 points** b) Harry scored 100 points by striking each colour **at least once**. Complete the score sheet below to show how he scored the 100 points. **Colour** / **No. of times** / **Score** Blue / / Green / / Red / 2 / 60 Total / / 100 **Answer:** **Colour** / **No. of times** / **Score** Blue / 2 / 20 Green / 1 / 20 Red / 2 / 60 Total / / 100	a) 2 green strikes at 20 points each, scores $20 \times 2 = 40$ points 1 red strike at 30 points = 30 points Total points scored by Tommy = 40 + 30 = 70 points b) Harry scores 100 points and strikes each colour at least once. He also scored 60 of these points by striking red twice. Remaining points = 100 – 60 = 40 He scored 40 points with at least one blue and one green: 1 blue + 1 green = 10 + 20 = 30 points To score 40 points he needs to get 10 get more points, so he must strike another blue. 2 blue + 1 green = 2(20) +20 = 40 points The table is complete with 2 blue strikes = 10 × 2 = 20 points 1 green strike = 20 × 1 = 20 points. 2 red strikes =30 × 2 = 60 points Total points obtained = 100			

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*			
				KC	AT	PS
43.	Ken and Rob each use six **equilateral** triangles to make the two shapes below. The triangles have sides that are 7 cm long.  a) What is the perimeter of Ken's shape? **Answer: 42 cm** b) How much longer is the perimeter of Rob's shape than Ken's shape? **Answer: 14 cm**	a) Ken's shape is a six sided polygon of equal sides, each = 7 cm Perimeter of Ken's shape $=(6\times 7)$ cm $=42$ cm b) Rob's shape is enclosed by 8 sides of six triangles. Hence, the perimeter of Rob's shape $=(8\times 7)$ cm $=56$ cm Rob's shape is longer than Ken's shape by the difference of their perimeters. Rob's shape is (56 – 42) = 14 cm longer than Ken's shape.				

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS
44.	Mr. John bought the television set shown below.  a) Calculate the discount in dollars. **Answer: $500** b) What was the selling price of the television set AFTER the discount was given? **Answer: $1500** c) After the discount was given, Mr. John paid VAT at 15%. How much VAT was paid? **Answer: $225** d) What was the FINAL price of the television set? **Answer: $1725**	a) Discount is 25% off the marked price of $2000 $= \frac{25}{100} \times \$2000$ $= \$500$ b) Selling price after discount = Marked price – Discount given = $2000 – $500 = $1500 c) VAT is 15% of the price after discount. $= \frac{15}{100} \times \$1500$ $= \$225$ d) Final price of the television = Price after discount + VAT paid = $1500 + $225 = $1725				

No.	TEST ITEMS	WORKING COLUMN	Do Not Write Here			
				KC	AT	PS
45.	The diagram below shows a triangular prism.  a) How many faces of the prism are: i. Triangular? **Answer: 2 faces** ii. Rectangular? **Answer: 3 faces** b) How many edges have a length of 45 cm? **Answer: 3 edges** c) The volume of the prism is 90 cm^3. It is cut into identical prisms each of volume 10 cm^3. What is the length of EACH of the smaller prisms? **Answer: 5 cm**	a) (i) 2 triangular faces  (ii) 3 rectangular faces  b) 3 edges have a length of 45 cm.  c) Volume of prism = 90 cm^3 Each cut prism has a volume of 10 cm^3 Number of prisms cut $= \frac{90\ cm^3}{10\ cm^3}$ $= 9$ Total length of all 9 prisms = Length of the original uncut prism = 45 cm Length of each of the prisms cut $= \frac{45\ cm}{9}$ $= 5\ cm$				

No.	TEST ITEMS	WORKING COLUMN	*Do Not Write Here*		
				KC	AT	PS
46.	The bar graph below shows the ages of four cousins.  a) What is the mean age of the four children, in years? **Answer: 8 years** b) Both Lauren and Roshan were born in May. In May 2006 Lauren was six years old. In what year was Roshan born? **Answer: 1996**	a) From the bar chart we read: The age of Stacy = 6 years The age of Lauren = 8 years The age of Jessica = 6 years The age of Roshan = 12 years Total ages = 6 + 8 + 6 + 12 = 32 years Mean age $= \frac{\text{Total age}}{\text{Number of children}}$ $= \frac{32 \text{ years}}{4}$ $= 8$ years b) Lauren is 8 years old and Roshan is 12 years old. That is, Roshan is 12 – 8 = 4 years older than Lauren. If on May 2006, Lauren was 6 years old, then she was born in May 2000. Roshan was born 4 years before Lauren. Roshan was born in the year 2000 – 4 = 1996				