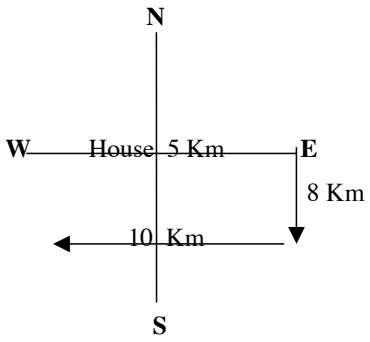
Solutions to MAT Questions

Question	Answer	Rationale
1.	2	In this question two sets of letters are given to the left of the sign **(::)**. In the first group the second set has MM corresponding to LL. M is the next letter to L in the alphabetical series. Similarly M in the first set is replaced by N (the next letter in the sequence). O remains same in both the sets. Using the above logic, AA shall be replaced by BB, B should be replaced by C and D remains the same. Therefore, the answer is BBCD given at alternative 2.
2.	2.	In the first group of numbers two numbers are given. The first number 9 is the square of 3, 25 is square of 5. Here these numbers are increasing by 2 i.e. 3+2 = 5. Similarly in the next group 49 is the square of 7, using the same logic; the next number should be the square of 9 (7+2). i.e. 81, given at alternative 2.
3.	3	The first figure is a triangle. In the next triangle the arms are extended. Small circles are placed above the arms anticlockwise. In the second set, the first figure is a square. If you extend its arms in the same manner and place the circles above the extended arms anticlockwise, the answer figure would be 3.
4.	2	You can see that in KING and RING, ING is common. Therefore, the three letters, which represent ING, should be 'b d e' which is also common in the given code. The left out letter in the word KING is K i.e. m in the given code. Similarly in RING the left out letter is R which is 'o' in the code. The rest of the code you can work out.

5.	4	To work out the Code for KIN you have to see the next two words i.e. INK and IRK. I and K are common in both the words. In the code, you can see that 'e' and 'm' are common. You know that 'm' represents K. So 'e' represents I. Now, you can see that 'b' represents N. Therefore KIN can be coded as 'm e b' which is at alternative 4.
6.	1	See the problem figure carefully, which has one vertical line and three horizontal parallel lines cutting the horizontal line at three places. Observe the distance of these lines too. Now observe the alternatives. In alternative 2, almost the same pattern is available, but the bottom horizontal line is broken. In alternative 3, the middle horizontal line is missing. In alternative 4, the vertical line is missing. Therefore, correct alternative is 1 where the full pattern is hidden.
7.	3	First observe and mark the pairs of 5 and 9. You will find 7 such pairs. Again observe that two pairs have 3 before 5. Therefore, you are left with 5 pairs of 5 and 9. So the correct alternative is 3.
8.	2	Let us find the two numbers, which have a difference of 2. We see that first two numbers '7' and '5' have the difference of 2, next 3 and 5 have the same difference, and again there are 3 and 5. Then there are 5, 3, and 5. Here 5 and 3 and 3 and 5 both have the difference of 2. A similar pair we find further again. Thus, there are 7 such pairs and the answer is 2.
9.	4	Using the same logic as given in questions 7 and 8 find the pattern as asked in questions 9 and 10.
10	1	

11.	2	In the given question replace division symbol (÷) with multiplication symbol (×), multiplication symbol (×) with minus symbol (–), plus (+) with multiplication (×) and minus (–) with division (÷). You will get this equation: $2 \times 8 - 16 \div 4 \times 2$ This can be worked out using normal rules. The value of the equation will be 8 which is placed at alternative 2.
12.	2	 Observe the figure and see that the boy will be in the South West direction from his house.
13.	4	All schools have teachers and students. No teacher is a student. Therefore, these two are independent of each other but part of the school. Therefore, alternative 4 is the answer wherein the big circle represents school and two small circles within it represent teachers and students separately.
14.	3	All singers are musicians, some singers and musicians are educated. Therefore, the large circle represents musicians and the circle inside it represents singers. The third circle, which cuts across these two circles, represents educated persons, as some of the musicians and singers may be educated. The alternative 3 shows this possibility.
15.	2	In the mirror image there is a lateral inversion i.e. right side appears to be on the left and vice-versa. So, out of the four given figures, figure given in alternative 2 is the mirror image of the given figure.