MATHS

BOOKS - MBD

Appendix - A2

Example

1. Restate the following statements with appropriate conditions, so that they become

true. : The diagonals of a quadrilateral bisect each otther.

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2. Consider the following situation. A problem, dating back to the early 13th century, posed by Leonardo Fibonacci asks how many rabbits you would have if you started with just two and let them reproduce. Assume that a pair of rabbits produces a pair of offspring each month and that each pair of rabbits produces

their first offspring at the age of 2 months. Month by month the number of pairs of rabbits is given by the sum of the rabbits in the two proceeding months, except for the 0th and the Ist months.

Month	Pairs of Rabbits
0	1
1	1
2	2
3	3
4	5
5	8
6	13
7	21
8	34
9	55
10	89
11	144
12	233
13	377
14	610
15	987
16	1597

After just 16 months, you have nearly 1600 pairs of rabbits !

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3. In each of the problems below, show the different stages of mathematical modelling for solving the problems. An ornithologist wants to estimate the number of parrots in a large field. She uses a net to catch some, and catches 32 parrots, which she ringed and sets free. The following week she manages to net

40 parrots, of which 8 are ringed. : What fraction of her second catch is ringed ?

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4. In each of the problems below, show the different stages of mathematical modelling for solving the problems. An ornithologist wants to estimate the number of parrots in a large field. She uses a net to catch some, and catches 32 parrots, which she sets free. The following week she manages to net 40 parrots,

of which 8 are ringed. : Find an estimate of the total number of parrots in the field.

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5. A T.V. can be purchased for Rs 24000 cash or for Rs 8000 cashdown payment and six monthly instalments of Rs 2800 each. Ali goes to market to buy TV under instalment scheme or to make cash payment by taking loan from some finanancial society. The society charges

simple interest at the rate of 18% per annum

simple interest. Which option is better for Ali?

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