



# MATHS

## BOOKS - MAXIMUM PUBLICATION

### PAIRS OF EQUATIONS

#### Example

1. In a rectangle of perimeter one metre, one side is five centimetres longer than the other.

What are the length of the sides.



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2. A class has 4 more girls than boys. One day when only 8 boys were absent, the number of girls were twice that of boys. How many girls and boys are there in the class?



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3. A man invested 10000 rupees, split into two schemes, at annual rates of interest 8% and

9%. After one year he got 875 rupees as interest from both. How much did he invest in each?



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4. A three and a half metres long rod is to be cut into pieces. One piece is to be bent into a square and the other into an equilateral triangle. The length of a side of both must be the same. How should it be cut?



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5. The distance travelled in ' $t$ ' seconds by an object starting with a speed of  $u$  metres/second and moving along a straight line with speed increasing at the rate of  $a$  metres/second every second is given by  $ut + \frac{1}{2}at^2$  metres. An object moving in this manner travels 10 metres in 2 seconds and 28 metres in 4 seconds with what speed did it start? At what rate does its speed change?



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6. The sum of the digits of a two digit number is 11. The number got by interchanging the digits is 27 more than the original number. What is this number?



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7. A 50 centimetre long rod is to be cut into two pieces, one of which is to be bent to form a square and other is to be bent to form an equilateral triangle. The length of a side of the equilateral is twice the length of the side of a

square. Find the length of the side of a square and equilateral triangle.



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8. If 2 is added to the denominator of a fraction we get  $\frac{1}{4}$ . If 1 is added to numerator and simplified we get  $\frac{2}{5}$ . What is the fraction?



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9. The ages of Ajay and Alwin are in the ratio 9 : 4. After seven years, the ratio of their ages will be 5 : 3. Find their ages.



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10. The ten's digit of a two digit number is three times the unit digit. The sum of the number and the unit digit is 32. Find the number.



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11. The result of dividing a number of two digits by the number with the digits interchanged is  $1\left(\frac{3}{4}\right)$ . if the sum of the digit is 12. Find the number.



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