RAVI MATHS TUITION & TEST PAPERS , WHATSAPP 8056206308

10TH MATHS PREVIOUSLY ASKED CHP 45

10th Standard

Maths

2 Marks 122 x 2 = 244

1) Represent the following situations in the form of quadratic equations :
The product of two consecutive positive integers is 306. We need to find the integers.

2) Which term of the AP: 3, 15, 27, 39, ... will be 132 more than its 54th term?

3) How many three-digit numbers are divisible by 7?

4) In an AP: given a = 5, d = 3, a_n = 50, find n and S_n.

5) In an AP: given a = 7, a_{13} = 35, find d and S_{13}.

6) In an AP: given a_{12} = 37, d = 3, find a and S_{12}.

7) In an AP: given a_3 = 15, S_{10} = 125, find d and a_{10}.

8) In an AP: given a = 2, d = 8, S_n = 90, find n and a_n.

9) In an AP: given a = 8, a_n = 62, S_n = 210, find n and d.

10) In an AP: given a_n = 4, d = 2, S_n = -14, find n and a.

11) In an AP: given a = 3, n = 8, S = 192, find d.

12) In an AP: given l = 28, S = 144 and there are total 9 terms. Find a.

13) Two water taps together can fill a tank is 6hours. The tap of larger diameter takes 9 hours less than the smaller one to fill the tank separately. Find the time in which each tap can separately fill the tank.

14) Solve for x: $x^2 - (\sqrt{3}+1)x + \sqrt{3} = 0$

15) Solve for x: $\sqrt{2x+9} + x = 13$

16) Solve for x: $(a+b)^2x2+8(a^2-b^2)x+16(a-b)^2=0$

17) An aeroplane left 30 minutes later than its scheduled time, and in order to reach its destination 1500 km away in time, it has to increase its speed by 250 km/h from its usual speed. Determine its usual speed.

18) A train trvels 360 km at a uniform speed. If the speed of the train had been 5 Km/h more, it would have taken one hour less for the same journey. Find the original speed of the train.

19) Solve the following equation for x :$9x^2 - 9(a+b)x + (2a^2 + 5ab + 2b^2) = 0$

20) If (-5) is a root of the quadratic equation $2x^2 + px - 15 = 0$ and the quadratic equation $p(x^2 + x) + k = 0$ has equal roots, then find the values of p and k.

21) For what value of k, are the roots of the quadratic equation $y^2 + k^2 = 2(k = 1)y$ equal ?

22) Solve for x ;
$\frac{4}{x} - 3 = \frac{5}{2x+3}; x \neq 0, -\frac{3}{2}$

23) Solve for x ;
$\frac{1}{x-2} + \frac{2}{x-1} = \frac{6}{x}; x \neq 0, 1, 2$

24) Two years ago, my age was three times the square of my daughter's age. In three years time from now my age would be four times my daughter's age. Find our present ages.

25) If the quadratic equation $x^2 + 4x + k = 0$, has real and distinct roots, find the value of k.

26) Write the degree of the quadratic equation

27) If 8 is a root of the equation $x^2 - 10x + k = 0$, then find the value of k.

28) If $x^2 + 2kx + 4 = 0$ has a root x = 2, then find the value of k.

29) For the quadratic equation $x^2 - 2x + 1 = 0$, find the value of $x + \frac{1}{x}$.

30) If the quadratic equation $x^2 - 4x + k = 0$ has equal roots, then find the value of k.

31) The perimeter of a right triangle is 60 cm. Its hypotenuse is 25 cm. Find the area of the triangle.

32) solve for x : $\sqrt{2}x^2 + 7x + 5\sqrt{2} = 0$

33) Find the roots of the following quadratic equation : $(x + 3)(x - 1) = 3(x - \frac{1}{3})$

34) A rectangular field is 20 m long and 14 m wide. There is path of equal width all around it. having an area of 111 sq.m. Find the width of the path.

35) The area of a right angled triangle is $480cm^2$ If the base of the triangle is 8cm more than twice the height (altitude) of the triangle then find the sides of the triangle.

36) If the product of two consecutive odd numbers is 143, then find the numbers.

37) Find the discriminant of quadratic equation $x^2 + 4x - 1$

38) If the equation $px^2 + 4x - 3 = 0$ has real roots, then find the value of p

39) If $ax^2 + bx + x = 0$ then find the value of c.

40) If -4 is a root of the quadratic equation $x^2 + px - 4$ and the equation $2x^2 + px + k = 0$ has equal roots then find the value of k.

41) For which condition, the quadratic equation $(a^2 + b^2)(x^2 - 2(ac + bd)X + (c^2 + d^2) = 0$ has equal roots, then find the values of p and q.

42) Find the discriminant of quadratic equation x^2-4x+1=0

43) If the discriminant of the equation $6x^2$-bx+2=0 is 1, then find the value of b.

44) Find the roots of the quadratic equation $a^2b^2x^2$+b^2x-a^2x-1=0

45) Find the numerical difference of the roots of equation x^2-7x-18=0

46) If $\frac{1}{2}$ is a root of the equation x^2 +kx-$\frac{5}{4}$=0, then find the value of k.

47) In a cricket match. Harbhajan took three wickets less than twice the number of wickets taken by Zaheer. The product of the numbers of wickets taken by these two is 20. Represent the above situation in the form of a quadratic equation.

48) Find the roots of the quadratic equation $\sqrt{3x^2} - 2x - \sqrt{3}$

49) Find the roots of the following quadratic equation:
$15x^2 - 10\sqrt{6}x + 10 = 0$

50) Solve for x.
$x^2 - (\sqrt{3 + 1}) + \sqrt{3} = 0$

51) Solve for x:$\sqrt{3x^2} - 2\sqrt{2}x - 2\sqrt{3} = 0$

52) If x = -$\frac{2}{3}$ and x = - 3 are roots of the quadratic equation ax^2 + 7x + b = 0, find the values of a and. b

53) In a cricket match, Harbhajan took three wickets less than twice the number of wickets taken by Zahir, The Product of the number of wickets taken by these two is 20. Represent the above situation in the form of quadratic equation.

54) Solve the following quadratic equation for x :
$4x^2 - 4a^2x + (a^4 - b^4) = 0$

55) Solve the following quadratic equation for x :
$9x^2 - 6b^2x - (a^4 - b^4) = 0$

56) Solve the quadratic equation, $2x^2 + ax - a^2 = 0$ for x.

57) Find the roots of the quadratic equation $4x^2 - 4px + (p^2 - q^2)$

58) Solve for x (in terms of a and b) :
$\frac{a}{x-b} + \frac{b}{x-a} = 2, x \neq a, b$

59) Solve for x
$\frac{16}{x} = 1 = \frac{15}{x+1}; x \neq 0, -1$

60) solve for x : $9x^2 - 6ax + (a^2 + b^2) = 0$

61) Solve the following quadratic equation for x :
$9x^2$-9(a+b)x+$2a^2$+5ab+$2b^2$=0

62) The sum of ages (in years) of a son and his father is 35 years and product of their ages is 150 years, find their ages.

63) Find k so that the quadratic equation (k + 1) x^2(k + 1)x + 1=0 has equal roots.

64) If the equation and the values of k for which the quadratic has $9x^2 - 3kx + k = 0$ equal roots.

65) Find the nature of the roots of the quadratic equation: $13\sqrt{13}x^2 + 10x + \sqrt{3} = 0$

66) Find the value of k for which the roots of the equation $3x^2$ - l0x +k = 0 are reciprocal of each other.

67) If x = 3 is one root of the quadratic equation x^2 - 2kx - 6 = 0, then find the value of k.

68) Find the discriminant of quadratic equation $\sqrt{5}x^2 - 7x + 2\sqrt{5} = 0$

69) What is the nature of roots of the quadratic equation $5x^2 - 2x - 3 = 0$?

70) Which of the following is not a quadratic equation?
$(\sqrt{2}x + \sqrt{3})^2 = 3x^2 - 5x$

71) Which of the following is not a quadratic equation?
$\left(x^2 + 2x\right)^2 = x^4 + 3 + 4x^2$

72) Which term of AP 3, 15, 27, 39,..... will be 120 more than its 21st term?

73) Find the number of three-digit natural numbers which are divisible by 11.

74) If the sum of first m terms of an AP is $2m^2$ + 3m, then what is its second term?

75) If the sum of first p terms of an AP is ap^2 + bp, find its common difference.

76) In an AP, the sum of first ten terms is -150 and the sum of its next ten terms is -550. Find the AP?

77) For what value of k will the consecutive terms 2k + 1, 3k + 3 and 5k - 1 form an AP?

78) Find the 9th term from the end (towards the first term) of the AP. 5, 9, 13,...., 185.

79) How many terms of the A.P. 18, 16, 14,..... be taken so that their sum is zero?

80) If the ratio of sum of the first m and n terms of an A.P. is $m^2 : n^2$, show that the ratio of its mth and nth terms is (2m - 1) : (2n - 1).

81) The angles of a quadrilateral are in AP. The greatest angle is double the least. Find all the four angles.

82) The first and the last term of an A.P. are 4 and 81 respectively. If the common difference is 7, how many terms are there in the A.P. and what is their sum?

83) Find the sum of all two-digit natural numbers which when divided by 3 yields 1 as remainder.

84) Find the sum of all two-digit numbers greater than 50 which when divided by 7 leave a remainder 4.

85) Which term of the A.P. 4, 12, 20, 28,..... will be 120 more than its 21st term?

86) If $\frac{4}{5}$, a, 2 are three consecutive terms of an A.P., then find the value of a.

87) If the sum of the first q terms of an A.P. is $2q + 3q^2$, what is its common difference?

88) In an A.P., the sum of its first ten terms is -80 and the sum of its next ten terms is -280. Find the A.P.

89) The ratio of the 5th and 3rd terms of an A.P. is 2 : 5. Find the ratio of the 15th and 7th terms.

90) In A.P. 56, 63, 70,....., 497, how many terms are there?

91) Find the sum of first 15 terms of an A.P., whose nth term is 3 - 2n.

92) The 4th term of an A.P. is zero. Prove that the 25th term of the A.P. is zero. Prove that the 25th term of the A.P. is three times its 11th term.

93) If 21, a, b and -3 are in AP, then find the value of(a+b).

94) Find the 7th term from the end of the AP 7, 12, 13, ..., 184.

95) Find the 7th term from the end of the AP 7, 12, 13, ..., 184.

96) Find the next term of the AP: 3, 1, -1, -3, ...

97) Find the common difference of the AP: $\frac{1}{p}, \frac{1-p}{p}, \frac{1-2p}{p}, \ldots$

98) The nth term of an AP is $a_n = 2_n + 1$, find its sum

99) Find, 100 is a term of the A.P. 25, 28, 31, or not.

100) If five times the fifth term of an AP. is equal to eight times its eighth term, show that its 13^{th} term is zero.

101) The fifth term of an A.P. is 20 and the sum of its seventh and eleventh terms is 64. Find the common difference.

102) The ninth term of an A.P. is - 32 and the sum of its eleventh and thirteenth term is - 94. Find the common difference of the A.P.

103) Find the first four terms of an AP. whose first term is - 2 and common difference is - 2.

104) The fourth term of an A.P.is 11. The sum of the fifth and seventh terms of the A.P.is 34. Find the common difference.

105) Find the next term of the series $\sqrt{2}, \sqrt{8}, \sqrt{18}, \sqrt{32}\ldots$.

106) Is series $\sqrt{3}, \sqrt{6}, \sqrt{9}, \sqrt{12}$..... an AP. ? Give reason.

107) Find the middle term of the A.P. 6, 13, 20, ..., 216

108) What is the sum of five positive integers divisible by 6.

109) Ho many terms of the A.P.18, 16, 14 ....be taken so tliat their sum is zero?

110) How many terms of the A.P.27, 24, 21, ... should be taken so that their sum is zero?

111) In an A.P., if $S_5 + S_7 = 167$ and $S_{10} = 235$, then find the A.P., where S_n denotes the sum of first n terms.

112) Find the sum of sixteen terms of an A.P. - 1, - 5, -9, ...

113) If S_n denotes the sum of n terms of an A.P. whose common difference is d and first term is a, find $S_n - 2S_{n-1} + S_{n-2}$.

114) Examine that the list of numbers 7, 13, 19, 25, ... form an AP.It.they form an Ap, write the next two terms

115) If in an Ap, a = 15, d = -3 and $a_n = 0$, then find the value of n.

116) If S_n the sum of first n terms of an AP is given by $S_n = 3n^2 - 4n$, find the nth term.

117) If the sum of first n terms of an AP is n^2 then find its 10th term.

118) Find the sum of all the two digit numbers which leave the remainder 2 when divided by 5.

119) If S_n the sum of the first n terms of an AP is given by $S_n = 2n^2 + n$, then find its nth term.

120) The first term of an AP is 3, the last term is 83 and the sum of all its items is 903. Find the number of terms and the common difference of the AP.

121) Find the common difference of the AP $\frac{1}{p}, \frac{1-p}{p}, \frac{1-2p}{p}, \ldots$

122) In an AP, if the common difference (d) is - 4 and the seventh term (a_7) is 4,then find the first term

3 Marks 46 x 3 = 138

123) Find the roots of the quadratic equation: $3x^2 - 2\sqrt{6}\,x + 2 = 0$

124) Find the roots of the quadratic equation $6x^2 - x - 2 = 0$

125) The sum of the third and the seventh terms of an AP is 6 and their product is 8. Find the sum of first sixteen terms of the AP.

126) Solve for x: $\frac{1}{a+b+x} = \frac{1}{a} + \frac{1}{b} + \frac{1}{x}; a \neq 0, b \neq 0, x \neq 0$

127) A two digit number is such that the product of its digits is 18.When 63 is subtracted from the number, the digits interchange their places. Find the number.

128) The hypotenuse of a right angled triangle is 6 cm more than twice its shortest side. if third side is 2cm less than hypotenuse, then find the sides of the triangle.

129) If one root of the quadratic equation $3x^2 - px - 2$ then find the value of p, Also find the other root.

130) Solve the following quadratic equation for x :
$4\sqrt{3}x^2 + 5x - 2\sqrt{3} = 0$

131) Solve for x:
$\frac{x+1}{x-1} + \frac{x-2}{x+2} = 4 - \frac{2x+3}{x-2}; x \neq 1, -2, 2$

132) Find the roots of the quadratic equation::
$a^2b^2x^2 + b^2x - a^2x - 1 = 0$

133) A journey of 192 krn from a town A to town B takes 2 hours more by an ordinary passenger train than a super fast train. If the speed of the faster train is 16 krn!h more, find the speed of the faster and the passenger train.

134) A passenger, while boarding the plane, slipped from the stairs and got hurt. The pilot took the passenger in the emergency clinic at the airport for treatment. Due to this, plane got delayed by hall an hour. To reach the destination 1500 km away in time, so that the passengers could catch the connecting flight, the speed of the plane was increased by 250 km/ hour than the usual speed. What is the usual speed of the Plane? What value is depicted in this question?

135) A plane left 30 minutes late that its scheduled time and in order to reach the destination 1500 km away in time, it had to increase its speed by 100 km/h from the usual speed. Find its usual speed.

136) Find two consecutive odd natural numbers, sum of whose squares is 130.

137) The altitude of a right angled triangle is 7 cm less than its base. If its hypotenuse is 17 cm long, then
(a) represent the above information in the form of a quadratic equation.
(b) find the length of the sides of the triangle

138) For what value(s) of a quadratic equation $30ax^2 - 6x + 1 = 0$ has no real rocts?

139) Find the value of k for which the roots of the quadratic equation $5x^2$-10 x+k=0 are real and equal.

140) The product of two consecutive pesitive integers is 306 . Find the integers.

141) Find two consecutive odd positive integers, sum of whose squares is 290.

142) Find the value of the middle term of the following AP: -6, -2, 2, ..., 58

143) Determine the AP whose fourth term is 18 and the difference of the ninth term from the fifteenth term is 30.

144) If the seventh term of an AP is $\frac{1}{9}$ and its ninth term is $\frac{1}{7}$, find its 63re term.

145) If S_n denotes the sum of the first n terms of an A.P., prove that $S_{12} = 3(S_8 - S_4)$.

146) Divide 56 in four parts in AP, such that the ratio of the product of their extremes (1st and 4th) to the product of means (2nd and 4rd) is 5 : 6.

147) The digits of a positive number of three digits are in AP and their sum is 15. The number obtained by reversing the digits is 594 less than the original number. Find the number.

148) Is 68 a term of the A.P. 7, 10, 13,.....?

149) Find the sum of all three-digit natural numbers, which are multiples of 7.

150) The sum of first m terms of an A.P. is $4m^2$ -m. If its nth term is 107, find the value of n. Also, find the 21st term of this A.P.

151) The sum of first q terms of an A.P. is 63q - $3q^2$. If its pth term is -60, find the value of p. Also, find the 11th term of this A.P.

152) Find the sum of all multiples of 9 typing between 300 and 700.

153) Find the sum of all three-digit natural numbers, which are multiples of 9.

154) Find the sum of the first 31 terms of an A.P. whose nth term is given by $3 + \frac{2}{3}n$.

155) Sum of the first n terms of an AP is $5n^2 - 3n$ Find the AP and also find its 16th term.

156) In an AP, the sum of first n terms is $\frac{3n^2}{2} + \frac{5n}{2}$. Find its 25th term.

157) Find the common difference of the following AP is:
3, -2, -7, -12,....

158) In an A.P. the sum of first n terms is $\frac{3n^2}{2} + \frac{13n}{2}$ Find the 25^{th} term.

159) If S_n denotes, the sum of the first n terms of an A.P. Prove that $S_{12} = 3(S_8 - S_4)$.

160) In an A.P., if the 12^{th} term is -13 and the sum of its first four terms is 24, find the sum of its first ten terms.

161) Find the sum of first seventeen terms of A.P. whose 4^{th} and 9^{th} terms are -15 and -30 respectively.

162) The 16^{th} term of an A.P. is five times its third term. If its 10^{th} term is 41, then find the sum of its first fifteen terms.

163) The sum of first 7 terms of an A.P.is 63 and sum of its next 7 terms is 161. Find 28^{th} term of A.P.

164) The sum of first n terms of an A.P.is given by $S_n = 3n^2 - 4n$. Determine the A.P.and the 12^{th} term.

165) How many three digit natural numbers are divisible by 7?

166) Find the sum of all two digit odd positive numbers.

167) If the sum of first 7 terms of an AP is 49 and that of first 17 terms is 289, find the sum of its first 20 terms.

168) The ratio of the 10th term to its 30th term of an AP is 1 : 3 and the sum of its first six terms is 42. Find the first term and the common difference of AP.

Case Study Questions 4 x 4 = 16

169) India is competitive manufacturing location due to the low Cost of manpower and strong technical and engineering capabilities contributing to higher quality production runs. The production of TV sets in a factory increases uniformly by a fixed number every year. It produced 16000 sets in 6th year and 22600 in 9th year.

Based on the above information,answer the following questions:

(i) Find the production during first year.

(ii) Find the production during 8th year.

(iii) Find the production during first 3 yr.

(iv) In which year, the production is 29200.

(v) Find the difference of the production during 7th year and 4th year.

170) Your friend Veer wants to participate in a 200 m race. He can currently run that distance in 51 s and with each day of practice it takes him 2s less. He wants to do in 31 s.

(i) Which of the following terms are in AP for the given situation?

(a) 51, 53, 55.... (b) 51, 49, 47 ....

(c) -51, -53, -55 .... (d) 51, 55, 59...

(ii) What is the minimum number of days he needs to practice till his goal is achieved?

(a) 10 (b) 12 (c) 11 (d) 9

(iii) Which of the following term is not in the AP of the above given situation?

(a) 41 (b) 30 (c) 37 (d) 39

(iv) If nth termn of an AP is given by $a_n = 2n + 3$, then common difference of an AP is

(a) 2 (b) 3 (c) 5 (d) 1

(v) The value of x, for which 2x, x + 10, 3x + 2 are three consecutive terms of an AP

(a) 6 (b) -6 (c) 18 (d) -18

171) Your elder brother wants to buy a car and plans to take loan from a bank for his car. He repays his total loan of Rs 118000 by paying every month starting with the first instalment of Rs 1000. If he increases the instalment by Rs 100 every month, answer the following:

(i) The amount paid by him in 30th instalmnent is

(a) 3900 (b) 3500 (c) 3700 (d) 3600

(ii) The amount paid by him in the 30 instalments is

(a) 37000 (b) 73500 (c) 75300 (d) 75000

(iii) What amount does he still have to pay after 30th instalment?

(a) 45500 (b) 49000 (c) 44500 (d) 54000

(iv) If total instalments are 40, then amount paid in the last instalment?

(a) 4900 (b) 3900 (c) 5900 (d) 9400

(v) The ratio of the 1st instalment to the last instalment is

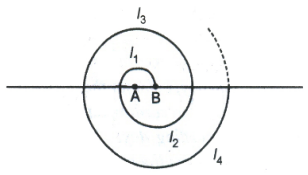
(a) 1 : 49 (b) 10 : 49 (c) 10 : 39 (d) 39 : 10

172) Manpreet Kaur is the national record holder for women in the shot-put discipline. Her throw of 18.86 m at the Asian Grand Prix in 2017 is the biggest distance for an Indian female athlete.
Keeping her as a role model, Sanjitha is determined to earn gold in Olympics one day
Initially her throw reached 7.56 m only. Being an athlete in school, she regularly practiced both in the mornings and in the evenings and was able to improve the distance by 9 cm every week.
During the special camp for 15 days, she started with 40 throws and every day kept increasing the number of throws by 12 to achieve this remarkable progress.

Based on the above information, answer the following questions.
(i) How many throws Sanjitha practiced on 11th day of the camp?
(ii) What would be Sanjitha's throw distance at the end of 6 months? Or When will she be able to achieve a throw of 11.16 m?
(iii) How many throws did she do during the entire camp of 15 days ?

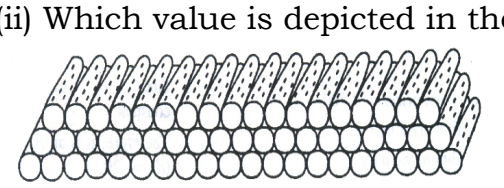
5 Marks 25 x 5 = 125

173) A spiral is made up of successive semicircles, with centres alternately at A and B, starting with centre at A, of radii 0.5 cm, 1.0 cm, 1.5 cm, 2.0 cm, ... as show in fig. What is the total length of such a spiral made-up of 13 consecutive semicircles? (Take $\pi = \frac{22}{7}$)



(Length of successive semicircles is l_1, l_2, l_3, l_4, . . . with centres at A, B,. . ., respectively.]

174) 200 logs are stacked in the following manner: 20 logs in the bottom row, 19 in the next row, 18 in the row next to it and so on.
(i) In how many rows are the 200 logs placed and how many logs are in the top row?
(ii) Which value is depicted in the pattern of log?



175) The perimeter of a right-angled triangle is 70 units and its hypotenuse is 29 units. Find the lengths of the other sides.

176) A motor boat whose speed is 18km/h in still water takes 1 hr. more to go 24km upstream than to return downstream to the same spot. Find the speed of stream.

177) The hypotenuse of right-angled triangle is 6 m more than twice the shortest side. If the third side is 2 m less than that of the hypotenuse, find the sides of the triangle.

178) Rs 6500 were divided equally among a certain number of persons. Had there been 15 more persons, each would have got Rs 30 less. Find the original number of persons.

179) Out of a group of swans $\frac{7}{2}$ times the square root of the total number are playing on the shore of a tank .The two remaining ones are playing in the water .Find the total number of swans.

180) A shopkeeper buys a number of books for Rs.1200. If he had bought 10 more books for the same amount, each book would have cost him Rs. 20 less. How many books did he buy?

181) The denominator of a fraction is one more than twice its numerator. If the sum of the fraction and its reciprocal is $2\frac{16}{21}$ find the fraction.

182) A train travels at a certain average speed for a distance of 54 km and then travels a distance of 63 km at an average speed of 6 km JH more than the first speed. If it takes 3 hours to complete the total journey, what is its first speed?

183) Sum of the areas of two squares is 468 m^2 . If the difference of their perimeter is 24 m, find the sides of the two squares.

184) If roots of the quadratic equation $x^2 + 2px + mn = 0$ are real and equal, show that the roots of the quadratic equation $x^2-2(m + n)x + (m^2 + n^2 + 2p^2) = 0$ are also equal-

185) The denominator of a fraction is two more than its numerator. If the sum of the fraction and its reciprocal is $\frac{34}{15}$ find the fraction

186) The sum of squares of two consecutive multiples of 7 is 637.Find the multiples

187) A student scored a total of 32 marks in class tests in mathematics and science. Had he scored 2 marks less in science and 4 more in mathematics, the product of his marks would have been 253. Find his marks in two subjects.

188) The perimeter of a rectangular field is 82 m and its area is 400 square metre. Find the length and breadth of the rectangle.

189) Two water taps together can fill a tank in $1\frac{7}{8}$ hrs. The tap with longer diameter takes 2 hrs less than the tap with smaller one to till the tank separately. Find the time in which each tap can fill the tank separately.

190) A motor bost whose speed is 18km/hr in still water takes 1 hr more to go 24 km upstream than to return downstream to the same spot. Find the speed of the stream.

191) If the sum of first 4 terms of an AP is 40 and that of first 14 terms is 280, find the sum of its n terms.

192) Find the common difference of an AP whose first term is 5 and the sum of its four terms is half the sum of the next four terms.

193) The ratio of the 11th term to the 18th term of an AP is 2 : 3. Find the ratio of the 5th term to the 21st term, and also the ratio of the sum of the first five terms to the sum of the first five terms to the sum of the first 21 terms.

194) In an AP of 50 terms, the sum of first 10 terms is 210 and the sum of its last 15 terms is 2565. Find the AP.

195) A thief runs with a uniform speed of 100 m/minute. After one minute, a policeman runs after the thief to catch him. He goes with a speed of 100 m/minute in the first minute and increases his speed by 10 m/minute every succeeding minute. After how many minutes the policeman will catch the thief?

196) The third term of an AP is 7 and the seventh term exceeds three times the term by 2. Find the first term, the common difference and the sum of first 20 terms.

197) The sum of first 20 terms of an A.P.is 400 and sum of first 40 terms is 1600.Find the sum of its first 10 terms.

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