WANDOOR GANITHAM – S.S.L.C STUDY MATERIAL 2021

FOCUS AREA - QUESTION BANK - SECOND DEGREE EQUATIONS

1	a) *Which number is to be added to $x^2 + 10x$ to get a perfect square ?* b) *Find the natural number value of x from the equation $x^2 + 10x = 144$?*
2	a) *Which number is to be added to $x^2 + 16x$ to get a perfect square ?* b) *Find the natural number value of x from the equation $x^2 + 16x = 225$?*
3	a) *Which number is to be added to $x^2 - 12x$ to get a perfect square ?* b) *Find the natural number value of x from the equation $x^2 - 12x = 64$?*
4	a) *Which number is to be added to $x^2 - 20x$ to get a perfect square ?* b) *Find the natural number value of x from the equation $x^2 - 20x = 576$?*
5	*When each side of a square was increased by 4 metres , the area became 256 square - metres .* a) *Write down a second degree equation by taking the side of the original square as x* b) *What was the length of a side of the original square ?*
6	*When each side of a square was decreased by 6 metres , the area became 169 square - metres .* a) *Write down a second degree equation by taking the side of the original square as x* b) *What was the length of a side of the original square ?*
7	**16** *added to the product of two consecutive multiples of 8 gives 784 .* a) *Write down a second degree equation by taking the smaller multiple as x* b) *What are the numbers ?*
8	**4** *added to the product of two consecutive multiples of 4 gives 676* a) *Write down a second degree equation by taking the smaller multiple as x* b) *What are the numbers ?*

9	**1** *added to the product of two consecutive odd numbers gives* **196** . **a)***Write down a second degree equation by taking the smallerd number as* x **b)** *What are the numbers ?*
10	**1** *added to the product of two consecutive odd numbers gives* **225** . **a)***Write down a second degree equation by taking the smaller number as* x **b)** *What are the numbers ?*
11	*The product of two consecutive multiples of* **6** *is* **432** . **a)** *Write down a second degree equation by taking the smaller multiple as* x **b)** *What are the numbers ?*
12	*The product of two consecutive multiples of* **8** *is* **768** . **a)** *Write down a second degree equation by taking the smaller multiple as* x **b)** *What are the numbers ?*
13	*The product of two consecutive terms of an arithmetic sequence with common* *difference* **4** *is* **221** . **a)** *Write down a second degree equation by taking one of the consecutive term as* x **b)** *What are the terms ?*
14	*The sum of the square of a number and* **6** *times that number is* **160** . **a)***Write down a second degree equation by taking the number as* x **b)** *What is the number ?*
15	*The sum of the square of a number and* **10** *times that number is* **1575** . **a)** *Write down a second degree equation by taking the number as* x **b)** *What is the number ?*

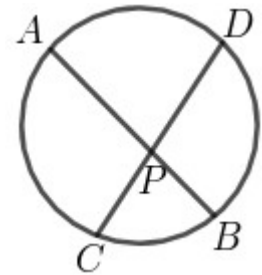| 16	**18** *times a number subtracted from the square of that number gives* **40** *.*
	a) *Write down a second degree equation by taking the number as* x
	b) *What is the number ?*
17	**12** *times a number subtracted from the square of that number gives* **2464** *.*
	a) *Write down a second degree equation by taking the number as* x
	b) *What is the number ?*
18	*The product of a number and* **8** *more than that number is* **345** *.*
	a) *Write down a second degree equation by taking the number as* x
	b) *What is the number ?*
19	*The product of a number and* **14** *less than that number is* **275** *.*
	a) *Write down a second degree equation by taking the number as* x
	b) *What is the number ?*
20	*The longer side of a rectangle is 4 centimetres more than its shorter side . The area of the rectangle is* **672** *square centimetres .*
	a) *Write down a second degree equation by taking the shorter side as* x
	b) *What are the lengths of its the sides ?*
21	*The shorter side of a rectangle is 2 centimetres less than its longer side . The area of the rectangle is* **288** *square centimetres .*
	a) *Write down a second degree equation by taking the longer side as* x
	b) *What are the lengths of its the sides ?*
22	*The perimeter of a rectangle is* **24** *centimetres and its area is* **32** *square centimetres .*
	a) *What is the sum of the lengths of the longer and the shorter sides of the rectangle ?*
	b) *Write down a second degree equation by taking the length of the longer side as* $6 + x$
	c) *What are the lengths of its the sides ?*

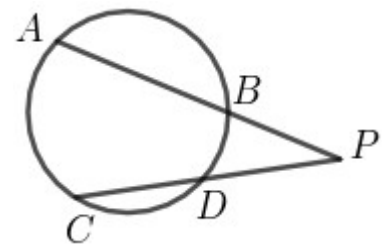| 23	*The perimeter of a rectangle is 32 centimetres and its area is 63 square centimetres.*
	a) *What is the sum of the lengths of the longer and the shorter sides of the rectangle ?*
	b) *Write down a second degree equation by taking the length of the shorter side as $8 - x$*
	c) *What are the lengths of its the sides ?*
24	*The longer side of a rectangle is 6 centimetres more than its shorter side . The diagonal of the rectangle is 30 centimetres .*
	a) *Write down a second degree equation by taking the shorter side as x*
	b) *What are the lengths of its the sides ?*
25	*The shorter side of a rectangle is 14 centimetres less than its longer side .The diagonal of the rectangle is 26 centimetres .*
	a) *Write down a second degree equation by taking the longer side as x*
	b) *What are the lengths of its the sides ?*
26	*The product of two consecutive multiples of 3 is 270 .*
	a) *Write down a second degree equation by taking the smaller multiple as x*
	b) *What are the numbers ?*
27	*The product of a number and 7 more than that number is 228 .*
	a) *Write down a second degree equation by taking the number as x*
	b) *What is the number ?*
28	*The longer side of a rectangle is 9 centimetres more than its shorter side . The area of the rectangle is 136 square centimetres .*
	a) *Write down a second degree equation by taking the shorter side as x*
	b) *What are the lengths of its the sides ?*
29	*The perimeter of a rectangle is 28 centimetres and its diagonal is 10 centimetres .*
	a) *What is the sum of the lengths of the longer and the shorter sides of the rectangle ?*
	b) *Write down a second degree equation by taking the length of the longer side as $7 + x$*
	c) *What are the lengths of its the sides ?*

30	*The perimeter of a rectangle is 68 centimetres and its diagonal is 26 centimetres.* *a) What is the sum of the lengths of the longer and the shorter sides of the rectangle ?* *b) Write down a second degree equation by taking the length of the shorter side as $17 - x$* *c) What are the lengths of its the sides ?*

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EXTRA QUESTIONS

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31	*In the figure two chords AB and CD intersect at P* *PA = 16 cm , PB = 6 cm . The length of PD is 4 cm more than* *that of PC.* *a) PC x PD = ...* *b) Write down a second degree equation by taking the length of PC as x .* *c) What is the length of CD ?*
32	*In the figure chords AB and CD of the circles are* *extended to meet at P. PA = 24 cm , AB = 18 cm.* *The length of PC is 10 cm more than that of PD.* *a) What is the length of PB ?* *b) PC x PD = ...* *c) Write down a second degree equation by taking the length of PD as x .* *d) What is the length of CD ?*
33	*In the figure chord AB of the circles is extended to meet* *the tangent through C at P . PC = 8 cm* *The length of PA is 12 cm more than that of PB.* *a) PA x PB = ...* *b) Write down a second degree equation by taking the length of PB as x .* *c) What is the length of AB ?*

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