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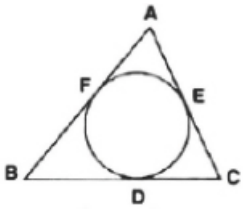
Grade : X	Subject : Mathematics	Date : 27 /08/2019
Name :	Practice Worksheet SA- I	Chapter No.: 1,2,7,8,9,10,11,14,15

	SECTION B (TWO MARKS EACH)
1.	Find the value of $\tan^2 10^\circ - \cot^2 80^\circ$.[DDE-M, 2015]
2.	Find all the zeros of the polynomial $x^4 + x^3 - 34x^2 - 4x + 120$, if two of its zeroes are 2 and – 2. (AI CBSE 2008)
3.	Two tangents TP and TQ are drawn to a circle with centre O from an external point T. Prove that $\angle PTQ = 2\angle OPQ$. (CBSE 2015)
4.	PA and PB are two tangents drawn to a circle with centre O, from an external point P such that PA = 5 cm and $\angle APB = 60°$. Find the length of chord AB. (CBSE 2016)
5.	Find the value of $\cot 10^\circ . \cot 30^\circ . \cot 80^\circ$[CTOQ, 2015]
6.	Express $\cos 71^\circ - \sin 57^\circ + \tan 63^\circ$ in terms trigonometric ratios of angles between 0° and 45°. [JTOQ, 2015]
7.	Find the point of y-axis which is equidistant from the points (-5, -2) and (3, 2). (CBSE 2011)
8.	If two vertices of an equilateral triangle are (3, 0) and (6, 0), find the third vertex. (CBSE 2011)
9.	The mid-point of segment AB is the point P (0, 4). If the Coordinates of B are (-2, 3) then find the coordinates of A. (CBSE 2011)
10.	Find the quadratic polynomial whose zeroes are 1 and –3. Verify the relation between the coefficients and the zeroes of the polynomial. (CBSE 2008 C)
11.	Find the zeroes of the quadratic polynomial $4x^2 - 4x - 3$ and verify the relation between the zeroes and its coefficients. (CBSE 2008 C)
12.	Find a quadratic polynomial whose zeroes are –4 and 3 and verify the relationship between the zeroes and the coefficients. (AI CBSE 2008 C)
13.	Using Euclid's division algorithm, find the HCF of 56, 96 and 404. (CBSE 2008)
14.	The HCF and LCM of two numbers are 9 and 360 respectively. If one number is 45, write the other number. (CBSE 2011)

	SECTION C (THREE MARKS EACH)
15.	Red kings, queens and jacks are removed from a deck of 52 playing cards and then well-shuffled. A card is drawn from thgxe fining cards. Find the probability of getting (i) King (ii) a red card (iii) a spade.
16.	Find the ratio in which the y-axis divides the line segment joining the points (-4,-6) and (10, 12). Also find the coordinates of the point of division. (CBSE 2013)
17.	Find the ratio in which the point P (3/4, 5/12) divides the line segment joining the points A (1/2, 3/2) and B (2, -5). (CBSE 2015)
18.	Two zeroes of cubic polynomial $ax^3 + 3x^2 – bx – 6$ are –1 and –2. Find the third zero and value of a and b.
19.	If two vertices of an equilateral triangle are (3, 0) and (6, 0), find the third vertex. (CBSE 2011)
20.	Find the area of the triangle ABC with A (1, - 4) and mid-points of sides through A being (2, - 1) and (0, -1). (CBSE 2015)
21.	If A and B are acute angles and $\sin A = \cos B$, then find the value of $A + B$.[Board Term-1, 2016, Set-MV98HN3]
22.	If $\tan 2A = \cot A + 60^\circ$, find the value of A where $2A$ is an acute angle. [Board Term-1, 2016, Set-LGRKRO]
23.	Points P, Q, R and S divide a line segment joining A (2, 6) and B (7, -4) in five equal parts. Find the coordinates of P and R. . (CBSE 2011)
24.	Draw a circle of radius 3.4 cm. Draw two tangents to it inclined at an angle of 60° to each other. (CBSE 2017)
25.	Draw a circle of diameter 6.4 cm. Then draw two tangents to the circle from a point P at a distance 6.4 cm from the centre of the circle. (CBSE 2012)
26.	If one zero of the polynomial $(a^2 – 9) x^2 + 13x + 6a$ is reciprocal of the other, find the value of 'a'. (AI CBSE 2008)
27.	Using division algorithm, find the quotient and remainder on dividing f(x) by g(x), where $f(x) = 6x^3 + 13x^2 + x – 2$ and $g(x) = 2x + 1$. (AI CBSE 2008 C)
28.	Find the HCF of 52 and 117 and express it in form 52x + 117y. (NCERT EXEMPLAR)
	SECTION D(FOUR MARKS EACH)

29.	Draw ΔABC in which AB = 3.8 cm, ∠B = 60° and median AD = 3.6 cm. Draw another triangle AB'C similar to the first such that $AB' = \left(\frac{4}{3}\right)AB$. (CBSE 2011)
30.	Draw a right triangle in which sides (other than hypotenuse) are of lengths 8 cm and 6 cm. Then construct another triangle whose sides are $\frac{3}{4}$ times the corresponding sides of the first triangle. (CBSE 2014)
31.	Prove that the angle between the two tangents to a circle drawn from an external point is supplementary to the angle subtended by the line segment joining the points of contact at the centre. (CBSE 2017)
32.	One card is drawn from a well-shuffled deck of 52 cards. Find the probability of getting: (i) A king of red suit. (ii) A queen of black suit. (iii) A jack hearts. (iv) A red face card.
33.	If A(-4, 8), B(-3, -4), C(0, -5) and D(5, 6) are the vertices of a quadrilateral ABCD, find its area. (CBSE 2015)
34.	The incircle of Δ ABC touches the sides BC, CA and AB at D, E and F respectively. Show that: AF+ BD + CD = AE + BF + CE = $\frac{1}{2}$ (Perimeter of Δ ABC). (CBSE 2011) 
35.	If the polynomial $4x^4 + 6x^3 + 13x^2 + 20x + 7$ is divided by another polynomial $3x^2 + 4x + 1$ then the remainder comes out to be ax + b, find 'a' and 'b'.
36.	If the polynomial $x^4 + 2x^3 + 8x^2 + 12x + 18$ is divided by another polynomial $x^2 + 5$, the remainder comes out to be px + q. Find the value of p and q. (CBSE 2009)
37.	If the polynomial $6x4 + 8x^3 + 17x^2 + 21x + 7$ is divided by another polynomial $3x^2 + 4x + 1$ then the remainder comes out to be ax + b, find 'a' and 'b'.(CBSE 2009)
38.	The distribution below gives the weights of 30 students of a class. Find the mean and median weight of students (CBSE 2009 C)

Weight in kg	No.of students

	40-45	2
	45-50	3
	50-55	8
	55-60	6
	60-65	6
	65-70	3
	70-75	2

39. Show that one and only one of n, n + 2 and n + 4 is divisible by 3. (NCERT EXEMPLAR)

40. The following table gives production yield per hectare of wheat of 100 farms of a village.(AI CBSE 2009 C)

Production	No.of farms
40-45	4
45-50	6
50-55	16
55-60	20
60-65	30
65-70	24

Draw a less than type and more than type ogive and also find its median.