INDIAN SCHOOL AL WADI AL KABIR

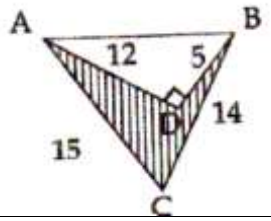
PO 513, PC 117, WADI KABIR, SULTANATE OF OMAN

Department of Mathematics

Class IX, Holiday Worksheet- June 2017

Submission Date: 7th Aug 2017

Q.no	Questions	Ans
1.	Simplify $(4\sqrt{5} - 3\sqrt{2})(4\sqrt{5} + 3\sqrt{2})$	62
2.	Find any two irrational numbers between $\frac{1}{3}$ and $\frac{1}{2}$.	
3.	Represent $\sqrt{3}$ on the number line.	
4.	Express $1.3\overline{2} + 0.\overline{35}$ in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$.	$\frac{1659}{990}$
5.	Represent $\sqrt{4.5}$ geometrically on the number line.	
6.	Express $0.23\overline{4}$ in the $\frac{p}{q}$ form, where p and q are integers and $q \neq 0$.	$\frac{211}{900}$
7.	If $\frac{\sqrt{2}+\sqrt{3}}{3\sqrt{2}-2\sqrt{3}} = a + \sqrt{6}\,b$, find the value of a and b if a and b are any rational numbers.	a = 2, b = $\frac{5}{6}$
8.	Simplify: $\frac{3\sqrt{2}}{\sqrt{6}-\sqrt{3}} - \frac{4\sqrt{3}}{\sqrt{6}-\sqrt{2}} + \frac{2\sqrt{3}}{\sqrt{6}+2}$	0
9.	The quotient obtained when $\sqrt{1500}$ is divided by $2\sqrt{15}$ is	5
10.	If $a = 8 + 3\sqrt{7}$ and $b = \frac{1}{a}$, what will be the value of $a^2 + b^2$.	62
11.	Find the value of p if $5^{p-3} \times 3^{2p-8} = 225$.	5
12.	Simplify: $9^{\frac{3}{2}} - 3 \times 5^{\circ} - (\frac{1}{81})^{\frac{-1}{2}}$	15
13.	If the area of an equilateral triangle is $81\sqrt{3}$ cm^2, find its perimeter	54 cm
14.	Find the area of an isosceles triangle whose equal sides are of length 15cm each and the third side is 12cm.	$18\sqrt{21}cm^2$

15.	The sides of a triangle are 120m, 170m and 250m. Find its area and height of the triangle if base is 250m.	$9000m^2$ h = 72m
16.	The lengths of the sides of a right angled triangle are in the ratio 3 : 4 : 5 and perimeter is 144cm. Find its sides and area.	$864cm^2$
17.	The perimeter of a rhombus is 52cm. One of the diagonals is 24cm, find the area of the rhombus.	$120cm^2$
18.	Find the area of the shaded region in the figure: 	$54cm^2$
19.	Find the remainder when $2x^2$ – x + 1 is divided by 2x + 1.	2
20.	Factorise: $\frac{1}{8}a^3+\frac{1}{4}a^2b+\frac{1}{6}ab^2+\frac{1}{27}b^3$	$\left(\frac{a}{2}+\frac{b}{3}\right)^3$
21.	Factorise: $x^3-8x^2+5x+14$	(x+1) (x-2) (x-7)
22.	If (a+b+c) = 15, ab + bc + ca = 35, find $a^2 + b^2 + c^2$	155
23.	Find the value of k so that the polynomial x^3 - $3x^2$ - 4x +k is divisible by (x+2)	12
24.	Show that (x-1) is a factor of the polynomial p(x) = $2x^3$ - $3x^2$ + 7x- 6.	
25.	If both (x – 2) and (2x – 1) are factors of px^2 +5x +r, show that p = r	
26.	If the polynomials p(x) = $x^4 - 2x^3$ + $3x^2$ -9x + 3a -7, when divided by x+1 leaves the remainder 20, then find the value of a.	a = 4
27.	Polynomials kx^3 + $3x^2$ – 3 and $2x^3$ – 5 x +k when divided by (x – 4) leave the same remainder in each case. Find the value of k.	k = 1
28.	Without actually calculating the cubes, find the value of 8^3 +$(-15)^3$ + 7^3	-2520

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