MODERN PUBLIC SCHOOL

HOLIDAYS HOMEWORK (2022-23)

CLASS - IX SUB: MATHS

General Instructions :-

- All questions are Compulsory.
- Do Holiday H.W. in maths homework notebook (give heading Summer Vacation HW)

(1) If $x=2$ is a factor of $x^2-3ax-2a$ then, find a.

(2) find the remainder when $p(y)=y^3+y^2+2y+3$ is divided by $(y+2)$.

(3) Divide the polynomial $3y^4-4y^3-3y+4$ by $(y-1)$ by long division method.

(4) Factorize the following

a) $2x^2+y^2+8z^2-2\sqrt{2}xy-4\sqrt{2}yz-8xz$

b) $x^3-6x^2+11x-6$

c) $2x^2+3\sqrt{5}x+5$

d) $a^{12}b^4-a^4b^{12}$

e) $8x^3-(2x-3y)^3$

(5) find the value of $\sqrt{9^{-2}}$

(6) Express $23.4\overline{53}$ in p/q form where p and q are integers and $q \neq 0$.

(7) Represent $\sqrt{5}$ on number line.

(8) If $x = 2+\sqrt{3}$ find value of $x^2+\frac{1}{x^2}$

(9) Represent $\sqrt{3.5}$ on number line.

(10) Rationalize $\frac{2\sqrt{3}+\sqrt{5}}{2\sqrt{3}-\sqrt{5}}$

(11) Name the quadrant in which following point lies.

a) A (1, 1)
b) B (2, 4)
c) C (-2, -10)
d) D (-1, 2)
e) E (1, -1)
f) F (-2, -4)

(12) Which of following lie on x-axis?
A (1, 1), B (1, 0), C (0, 1), D (0, 0), E (-1, 0), F (0, -1)

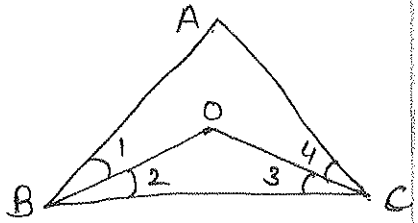
(13) If (1, -2) is solution of the equation $2x - y = p$, then find the value of p.

(14) Express $\frac{x}{4} - 3y = -7$ in form $ax + by + c = 0$

(15) Find the value of k for which $x = 0$, $y = 8$ is solution of $3x - 6y = k$

(16) Find two solutions of Linear Equation $2x - 3y = 12$

(17) In the figure, the bisector of $\angle ABC$ and $\angle ACB$ meet at O. Show that $\angle BOC = 90^\circ + \frac{1}{2}\angle A$



Activity Based Question:

1. Draw a square root spiral to represent on Number line on A4 size sheet.
2. Write all the 10 polynomial identities on A4 size sheet