K. R. D. International School

CLASS - 9TH MATHS H.H.WORK ASSIGEMENT 2024-25

Q-1 express $23.\overline{4}$ in the from of $\frac{p}{q}$,where q $\neq 0$.

Q-2 Rationalise the denominator of $\frac{\sqrt{5}-2\sqrt{3}}{\sqrt{2}-\sqrt{3}}$

Q-3 Find value of a and b.

$$\frac{2+\sqrt{3}}{\sqrt{2}-\sqrt{3}} = a\sqrt{6}+b\sqrt{2}$$

Q-4 Multiply $(\sqrt{3}+\sqrt{2})(2\sqrt{7}-\sqrt{3})$

Q-5 $(\sqrt{7}-5)^2$ using identity

Q-6 Expand $\left(\frac{a}{2}+\frac{b}{2}-\frac{\sqrt{7}}{4}\right)^2$ using identity

Q-7 Factorise $\frac{x^3}{27}-\frac{a^3}{8}$

Q-8 Factorise or expand

(i) $(-x-y)^2$

(ii) $\frac{x^2}{4}-\frac{y^2}{100}$

(iii) $\left(\frac{a}{x}-10\right)\left(\frac{a}{x}+7\right)$

(iv) $\left(\frac{a}{2}+\frac{c}{9}-\frac{d}{2}\right)^2$

(v) $\left(x-\frac{7}{2}\right)^3$

(vi) $\left(x+\frac{a}{c}\right)^3$

(vii) $\left(-2+\frac{x}{2}\right)^2$

(viii) (-2-x)$(-2+x)$

Q-9 Divide the polynomial $3x^4-4x^3-3x-1$ by $x-1$. verify your divide

Q-10 Verify whether 2 and 0 are zeros of the polynomial x^2-2x.

Q-11 What is the polynomial? What is the main difference between polynomial and equations.

Q-12 What is linear, quadratic and cubic polynomial? Give examples.

Q-13 What is degree of the polynomial? Justify by giving suitable example.

Q-14 Solve quadratic equations by splitting the middle term (factorization method)

(i) $x^2-22x+120$

(ii) y^2-5y+6

(iii) $12x^2-7x+1$

(iv) $2x^2+7x+3$

(v) $6x^2+5x-6$

(vi) $3x^2 - x - 4$

Q-15 find the value of k, if $x - 1\ is\ a\ factor\ of\ 4x^3 + 3x^2 - 4x + k$

Q-16 factorise (i) $x^3 - 23x^2 + 142x - 120$

(ii) $x^3 + 13x^2 + 32x + 20$

Q-17 Evaluate (i) $(99)^3$

(ii) $(998)^3$

Q-18 Explain Cartesian system in MATHMATICS, Draw supportive diagram about Cartesian system.

Q-19 Solve $-\frac{7}{2} + \frac{4}{4} + \frac{9}{8}$

Q-20 $-\frac{1}{2} + 1.7$

Q-21 Solve linear equation

$$-\frac{2x}{7}(0.5 - 20) - 1\frac{x}{2}\left[7 - \frac{7}{2}\right] = -\frac{7x}{2} + 4$$

Q-23 $-\frac{1}{3} + \frac{2}{7}$

Q-24 $Multiply\ \frac{-2x^{\frac{1}{2}}\ y^2}{8}\left(2 - \frac{7y^2x^3a^2}{6}\right)$

Q-25 subtract $\left(-0.1 + \frac{1}{2}\right)\ from\ \left(\frac{9}{6} + \frac{3}{8}\right)$

Q-26 Multiply -0.74x-0.000711

Q-27 $-\frac{7}{2} + \frac{1}{4} - \frac{8}{3} + 5\frac{1}{2}$

Q-28 Find -0.1+200

Q-29 Find -67.7-23

Q-30 Draw labeled diagram of 2D and 3D shapes.