

PERIODIC TEST - I (2017-18)

CLASS X

MATHEMATICS

M.M. 30

Time : 1 hour

- Instructions: (i) All questions are compulsory
 (ii) Questions 1 - 2 carry 1 mark each.
 (iii) Questions 3 - 4 carry 2 marks each.
 (iv) Questions 5 - 8 carry 3 marks each.
 (v) Questions 9 - 11 carry 4 marks each

1. Find a quadratic polynomial having zeroes 1 and -2.

$x^2 - 1x - 2$

2. Given the linear equation $2x - 3y = 10$, write another linear equation in two variables such that the geometrical representation of the pair so formed represent parallel lines.

3. Check whether the polynomial $g(x) = 2y^2 - 3$ is a factor of the polynomial

$p(x) = 6y^3 + 8y^2 - 9y - 12$

4. For what value of k, do the equations $3x - y + 8 = 0$ and $6x - ky = -16$ represent coincident lines?

(2)

5. If α, β are the zeroes of $x^2 + x + 7$, find the value of $\frac{1}{\alpha} + \frac{1}{\beta} - 2\alpha\beta$

$\frac{-99}{2} = 2k.14$
 $\frac{-b}{a} = -1$
 $\frac{c}{a} = 7$

6. If $2x + y = 23$ and $4x - y = 19$, find the value of $5y - 2x$

7. Find the zeroes of the polynomial $3x^2 + 4x - 4$ and verify the relationship between the zeroes and their coefficients.

8. A fraction is such that if the numerator is multiplied by 3 and the denominator is reduced

by 3, we get $18/11$, but if the numerator is increased by 8 and the denominator is doubled,

we get $2/5$. Find the fraction.

$5a + b = 2$ $\times 3 \Rightarrow 15a + 3b = 6$
 $6a - 3b = 21$

9. Solve:

$\frac{5}{x-1} + \frac{1}{y-2} = 2$

$\frac{6}{x-1} - \frac{3}{y-2} = 1$

$\frac{2}{14} \frac{14}{98}$

$\frac{1}{2} \frac{1}{2} \frac{1}{2}$