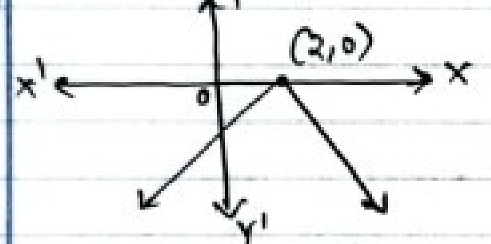
X | Test-4

1) If $p(x)$ is a polynomial of atleast degree one and $p(k)=0$, then k is known as
(a) value of $p(x)$ (b) zero of $p(x)$ (c) constant term (d) none of these

2) Ravi claims that $p(x) = mx^{a} + x^{2b}$ has $4b$ zeroes. For Ravi's claim to be correct, which of these must be true?
(a) $a=6b$ or $a=4b$ (b) $a=2b$ or $a=4b$ (c) $m=2b$ (d) $m=4b$

3) The polynomial having $x=3$ as one of the zeroes is
(a) $2x^3-5x^2-4x+3$ (b) x^2+5 (c) x^3+9 (d) x^2-12

4)


Graph of $p(x) = px^2+4x-4$ is given.
The value of p is —
(a) 0 (b) 2 (c) -1 (d) 1

5) Zeroes of a polynomial can be determined graphically. No. of zeroes of polynomial is equal to number of points where the graph of polynomial intersects
(a) y-axis (b) x-axis (c) y-axis or x-axis (d) none of these

6) If graph of a polynomial doesnot intersect x-axis but intersect y-axis at one point, then the no. of zeroes =
(a) 0 (b) 1 (c) 0 or 1 (d) none of these.

7) The graph of a polynomial $p(x)$ cuts the x-axis at 2 places and touches it at 4 places. The no. of zeroes is —
(a) 2 (b) 6 (c) 4 (d) 8

8) The graph of $y = x^3-4x$ cuts x-axis at $(-2,0)$, $(0,0)$ and $(2,0)$. The zeroes of x^3-4x are
(a) 0, 0, 0 (b) $-2, 2, 2$ (c) $-2, 0, 2$ (d) $-2, -2, 2$

9) If k is a zero of the polynomial $p(x) = x^2-11x+24$. If k is a prime number, then find the value of k

10) Show that $(28)^n$ cannot end with digit zero.

Test - 4 (Answers)

1) zero of $p(x)$ (b)

2) $a = 6b$ or $a = 4b$ (a)

3) $2x^3 - 5x^2 - 4x + 3$ (a)

4) $x = 2$

$p(2) = 0$

$\Rightarrow p \times 4 + 4 \times 2 - 4 = 0$

$\Rightarrow 4p + 8 - 4 = 0$

$\Rightarrow 4p + 4 = 0$

$\Rightarrow 4p = -4$

$\therefore p = -1$ (c)

5) x-axis (b)

6) 0 (a)

7) $2 + 4 = 6$ (b)

8) $-2, 0, 2$ (c)

9) $p(x) = (x-8)(x-3)$

S	P	
-11	24	-8, -3

$\therefore x = 8, 3$

The required value of k is 3

10) $(28)^n = (2^2 \times 7)^n$

$= 2^{2n} \times 7^n$

We know that, a number to end with digit zero, its prime factorisation must contain 2 and 5 as prime factors.

Here, 28^n does not contain prime factor 5.

According to fundamental theorem of arithmetic, 28^n does not contain any other prime factors other than 2 and 7.

Hence, there is no value of n for which $(28)^n$ ends with digit zero.