GAIL DAV PUBLIC SCHOOL
GAIL GAON, DIBIYAPUR
WORKSHEET-REAL NUMBERS

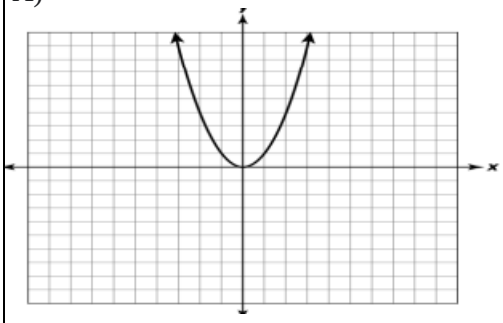
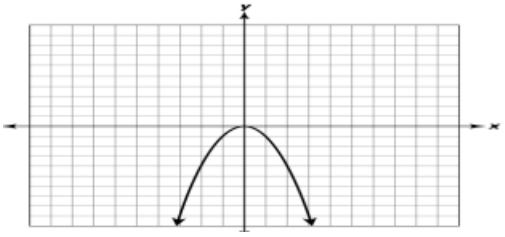
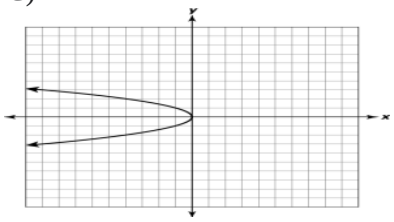
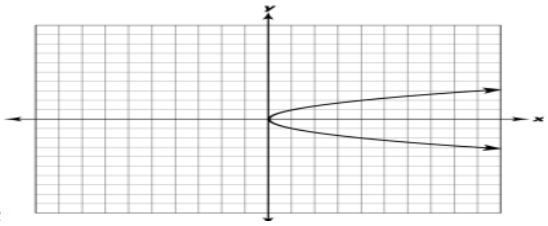
SUBJECT- MATHEMATICS CLASS -X

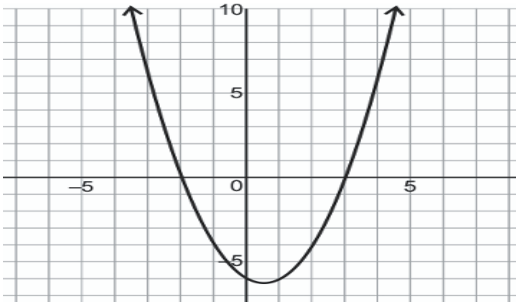
S.No	Section A
1	The LCM of smallest 2-digit number and smallest composite number is (a) 20 (b)4 (c) 40 (d) 12
2	What is the largest number that divides each one of 1152 and 1664 exactly? (a) 32 (b)64 (c)128 (d)256
3	Which of the following is equivalent to a decimal that terminates? (a) $\frac{1}{5^2 2^2}$ (b) $\frac{1}{5^2 11^2}$ (c) $\frac{1}{5^2 7}$ (d) $\frac{1}{2^2 3}$
4	If $(-1)^n + (-1)^8 = 0$, then n is: (a) any positive integer (b) any negative integer (c) any odd number (d) any even number
5	Which of the following cannot be the unit digit of 8^n, where n is a natural number? (a) 4 (b) 2 (c) 0 (d) 6
6	In the question number 6, a statement of assertion (A) is followed by a statement of Reason (R) . Choose the correct option. Assertion (A): For any two prime numbers p and q, their HCF is 1 and LCM is p + q. Reason: For any two natural numbers, HCF x LCM = product of numbers. (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A). (b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A). (c) Assertion (A) is true but reason (R) is false. (d) Assertion (A) is false but reason (R) is true.
	Section-B
6	Three bulbs red, green and yellow flash at intervals of 80 seconds, 90 seconds and 110 seconds. All three flash together at 8:00 am. At what time will the three bulbs flash altogether again?
7	Prove that $6 - 4\sqrt{5}$ is an irrational number, given that $\sqrt{5}$ is an irrational number.
8	In a morning walk, three persons step off together. Their steps measure 80 cm, 85 cm and 90 cm respectively. What is the minimum distance each should walk so that all can cover the same distance in complete steps?
	Section-C
9	Prove that $(\sqrt{5} + 2)^2$ is an irrational number.
10	Find all pairs of positive integers whose sum is 91 and HCF is 13. Show your work.

11	Three alarm clock ring their alarms at intervals of 20 min, 25 min and 30 min respectively. if their first beep together at 12 noon, at what time will they beep together again for the first time?
12	Given that HCF (306, 657) = 9, find LCM (306, 657).
13	Show that 6^n, 8^n and 12^n cannot end with the digit 0 for any natural number 'n'.
14	If $x = ab^3$ and $y = a^3b$, where a and b are prime numbers, then find the value of HCF (x, y) - LCM (x, y)
15	Find the least number which when divided by 12, 16, 24 and 36 leaves a remainder 7 in each case.
16	A school is arranging tiles in a rectangular playground of dimensions 306 m × 657 m. They want to cover it using square tiles of maximum possible size without cutting any tile. Questions: 1. What is the largest size of the square tile that can be used? 2. How many such tiles are required to cover the playground? 3. Which mathematical concept is used to find the answer? 4. Express 306 and 657 as a product of their prime factors.
17	A student deposits money and calculates interest, resulting in fractions like 13/125 and 7/40. Questions: 1. Find the decimal expansion of 13/125. Is it terminating or non-terminating? 2. Find the decimal expansion of 7/40. 3. State the condition for a rational number to have a terminating decimal expansion. 4. Check whether 7/75 has a terminating decimal expansion or not.

GAIL DAV PUBLIC SCHOOL
GAIL GAON, DIBIYAPUR
WORKSHEET-POLYNOMIALS

SUBJECT- MATHEMATICS CLASS -X

S.No	Section A
1	Which of the following statements is correct? A) A polynomial of degree 2 has three zeroes B) A polynomial of degree 3 has four zeroes A polynomial of degree 4 has four zeroes D) A polynomial of degree 5 has ten zeroes
2	Which of the following graphs could be for the simple polynomial x^2? A)  B)  C)  D) 
3	The zeroes of x^2-2x-8 are: (a) (2,-4) (b) (4,-2) (c) (-2,-2) (d) (-4,-4)
4	If $(-1)^n + (-1)^8 = 0$, then n is: (a) any positive integer (b) any negative integer (c) any odd number (d) any even number
5	Which of the following cannot be the unit digit of 8^n, where n is a natural number? (a) 4 (b) 2 (c) 0 (d) 6
6	In the question number 6, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct option. Assertion (A): If the graph of a polynomial touches x-axis at only one point, then the polynomial cannot be a quadratic polynomial. Reason: A polynomial of degree n (n> 1) can have at most n zeroes. (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A). (b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (. (c) Assertion (A) is true but reason (R) is false. (d) Assertion (A) is false but reason (R) is true.

7	Assertion (A) : The polynomial p(x) = $x^2 + 3x + 3$ has two real zeroes. Reason (R) : A quadratic polynomial can have at most two real zeroes. (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A). (b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (. (c) Assertion (A) is true but reason (R) is false. (d) Assertion (A) is false but reason (R) is true.
	Section-B
8	Given that m + 2, where m is a positive integer, is a zero of the polynomial $q(x) = x^2 - mx - 6$. Find the value of m.
9	 Write a quadratic polynomial whose sum of zeros is less than that of the polynomial shown in the graph above.
10	Find a quadratic polynomial, the sum of whose zeroes is -6 and their product is 5.
	Section-C
11	P and q are zeroes of the polynomial $2x^2 + 5x - 4$. Without finding the actual values of p and q, evaluate (1-p)(1-q).show your steps.
12	Find a quadratic polynomial each with the given numbers as the sum and product of its zeroes, respectively. (a) 1/4, -1 (b) $\sqrt{3}, -\sqrt{3}$
13	Find the zeroes of the quadratic polynomial $6x^2 - 3 - 7x$ and verify the relationship between the zeroes and the coefficients
12	Shibe decorated the door of his house with garlands on the occasion of Onam Each garland forms the shape of a parabola. Based on the above information answer the following questions: (i) Suppose the quadratic polynomial for the given curve is,$ax^2 + bx + c$ then what will be the sign of a? (ii) Find a quadratic polynomial with the sum and product of its zeroes as −1 and −2 respectively. (iii) For what value of $'k'$, if −1 is one of the zeroes of the quadratic polynomial $(k-1)x^2 - 2x - 5$. OR If α & β are the zeroes of the polynomial $f(x) = x^2 - 7x + 12$., then find the value of (1/ α) + (1/ β).
13	Find a quadratic polynomial, the sum of whose zeroes is $\frac{1}{5}$ and their product is $\frac{1}{2}$.