

### HCF AND LCM OF POLYNOMIALS

1. Find the g.c.d. of  $p(x) = 24(6x^4 - x^3 - 2x^2)$  and  $q(x) = 20(2x^6 + 3x^5 + x^4)$ .
2. Find the lcm of  $p(x) = -x^2 - x + 6$  and  $q(x) = -x^2 + x + 2$ .
3. Find the lcm of  $(16 - 4x^2)$  and  $(x^2 + x - 6)$ .
4. Find the hcf of the polynomials  $3 + 13x - 30x^2$  and  $25x^2 - 30x + 9$ .
5. For what value of  $a$ , the gcd of  $x^2 - 2x - 24$  and  $x^2 - ax - 6$  is  $(x-6)$ .
6. Find the gcd of the polynomials  $12(x^4 - 25)$  and  $8(x^4 + 4x^2 - 5)$ .
7. The LCM and HCF of two polynomials  $p(x)$  and  $q(x)$  is  $36x^3(x+a)(x^3 - a^3)$  and  $x^2(x-a)$  respectively. In  $p(x) = 4x^2(x^2 - a^2)$ , find  $q(x)$ .
8. Find the HCF of the polynomials  
 $f(x) = 10(x+1)(x-3)^3$   
 $g(x) = 15(x-2)(x-3)^2$   
 $h(x) = 25(x+5)(x-3)^3$
9. Find  $u$  and  $v$  so that the polynomials  
 $p(x) = (x^2 + 3x + 2)(x^2 + 2x + u)$   
 $q(x) = (x^2 + 7x + 12)(x^2 + 7x + v)$   
may have  $(x+1)(x+3)$  as their HCF.
10. Find the value of  $a$  if HCF of  $x^2 + 2ax + 3a + 3$  and  $x^2 + x - 5a$  is  $x+5$ .

**ANSWERS**

1.  $4x^2(2x + 1)$

2.  $(-1)(x + 3)(x - 2)(x + 1)$

3.  $-4(x^2 - 4)(x + 3)$

4.  $5x - 3$

5.  $a = 5$

6.  $4(x^2 + 5)$

7.  $9x^3(x^3 - a^3)$

8.  $5(x - 3)^2$

9.  $u = -3, v = 6$

10.  $a = 4$

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