

MM 40	cbsemath.com	1 h 20 min
HCF and LCM		
1. Find the HCF of $(2x^2 - x - 1)$ and $(4x^2 + 8x + 3)$		3
2. Find the HCF of $(x^2 + x - 2)$ and $(x^3 + 4x^2 + x - 6)$		4
3. For what value of r , the HCF of $x^2 + x - (2r + 2)$ and $(2x^2 + rx - 12)$ is $(x + 4)$?		3
4. Find r if $x - r$ is HCF of $x^2 - x - 6$ and $x^2 + 3x - 18$.		3
5. Find the HCF of $x^3 + 2x^2 - 3x$ and $2x^2 + 5x^2 - 3x$.		4
6. Find the LCM of $9x^2(x + 4)(x - 4)^4$ and $17x^5(x + 4)(x - 3)^3$		3
Find the HCF and LCM of polynomials given below. Verify that the product of LCM and HCF differs the product of polynomials if at all by a factor of -1 (for question 7 and 8)		
7. $1 - x^2$ and $x^3 - 1$		4
8. $(5x - 1)^3(4x - 9)^2$ and $(5x - 1)^2(4x - 9)^4$		4
9. Find the values of r and s so that $f(x) = 3x^3 + rx^2 - 13x + s$ is divisible by $x^2 - 2x - 3$		4
10. Find LCM of polynomials $2y^2 - 8$, $3y^2 - 9y + 6$ and $6y^2 + 18y + 12$		4
11. $x - 1$ and $x^3 + 5x^2 - x - 5$ are respectively the HCF and LCM of two quadratic polynomials. Find them.		4

Answers for cbsemath.com free paper LCM and HCF

1. HCF = $2x + 1$

2. HCF = $x^2 + x - 2$

3. $r = 5$

4. $r = 3$
5. $x(x + 3)$
6. $153x^5(x + 4)(x - 4)^4(x - 3)^3$
7. Differs by -1
8. Are equal
9. $r = -4, s = -6$
10. $\text{LCM} = 6(x - 1)(x - 2)(x + 1)(x + 2)$

11. Hint

Let the polynomials be $P(x)$ and $Q(x)$

$x - 1$ is the HCF

\therefore it is factor of both $P(x)$ and $Q(x)$

$\text{LCM} = x^3 + 5x^2 - x - 5 = (x - 1)(x + 1)(x + 5)$

\therefore both the polynomials are quadratic so one of the remaining $(x + 1)(x + 5)$ will go to $P(x)$ and the other to $Q(x)$.

$\therefore P(x) = (x - 1)(x + 1)$ and $Q(x) = (x + 5)(x - 1)$