

Year 9 Algebra Worksheet



1. Factorise $9x^2 + 6xy + y^2$
2. Find the value of k, if $x=2, y=1$ is a solution of the equation $2x+3y = k$
3. Solve for x and: y $x+y = a-b$ $ax-by = a^2+b^2$
4. Solve the following system of linear equations : $3x - y = 7$; $2x + 5y = -1$
5. Find the value of p and q, if $x^2 - 1$ is a factor of $x^4 + px + 2x^2 - 3x + q$.
6. Check whether $x = 4$ and $x = 5$ are solutions of the given equation :
$$\sqrt{x^2 - 16} - (x - 4) = \sqrt{x^2 - 5x + 4}$$
.
7. If $g(x) = (2x - 3)$ is a factor of $f(x) = 2x^3 - 9x^2 + x + p$, find the value of p. Hence, find all the factors.
8. Find the H.C.F. of the polynomials $2x^3 + 2x^2 + 2x + 2$ and $6x^3 + 12x^2 + 6x + 12$
9. Solve the inequalities : $2x - 3 < 5x + 3 < 2x + 3$
10. Solve for x :
 $(x + 1)(x + 2)(x + 3)(x + 4) = 120$.

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