

Factoring Polynomials: math test, Grade 9 – download the PDF

Suggested time: 45 minutes. Out of 20 points. Calculator allowed only when the problem says so.

1 Greatest common factor

/ 3 pts

Factor out the GCF: $20x^3y - 15x^2y^2 + 35xy$.

2 Trinomials

/ 4 pts

Factor: a) $x^2 + 13x + 36$ b) $x^2 - 4x - 60$ c) $3x^2 + 14x + 8$ d) $2x^2 - 11x + 12$.

3 Grouping and patterns

/ 3 pts

Factor: a) $2x^3 - 6x^2 + 5x - 15$ b) $81x^2 - 16$ c) $36x^2 + 60x + 25$.

4 Solving equations

/ 4 pts

Solve: a) $(2x - 1)(x + 8) = 0$ b) $x^2 - 3x - 40 = 0$ c) $5x^2 - 45x = 0$ d) $9x^2 - 64 = 0$.

5 A rectangular patio

/ 3 pts

A patio is 4 feet longer than it is wide, and its area is 96 square feet. Find its dimensions.

6 Find the error

/ 3 pts

A student solves $x^2 - 6x + 9 = 0$ and writes $(x - 3)(x + 3) = 0$, so $x = 3$ or $x = -3$. Find the mistake, factor correctly and solve.



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