

Exponent Rules and Polynomials: math test solutions, Grade 9 – download the PDF

Test solutions with the detailed point scale. Add up your points and spot what to review.

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

1 Exponent rules

/ 4 pts

- a. n^{13} (1 pt)
- b. $16b^6$ (1 pt)
- c. $4p^5$ (1 pt)
- d. $\frac{3m}{k^4}$ (1 pt)

2 Scientific notation

/ 3 pts

- a. 6.2×10^{-5} (1 pt)
- b. 8.3×10^7 (1 pt)
- c. $2.5 \cdot 4 = 10$, so $10 \times 10^8 = 1 \times 10^9$ (1 pt)

3 Classifying a polynomial

/ 3 pts

- a. $2x^3 + 4x - 7$ (1 pt)
- b. Degree 3, leading coefficient 2 (1 pt)
- c. Three terms: a trinomial (1 pt)

4 Adding and subtracting

/ 3 pts

- a. $6x^2 + 4x - 3$ (1 pt)
- b. $5x^2 - 2x + 1 - x^2 - 6x + 4 = 4x^2 - 8x + 5$ (2 pts: 1 for the sign change, 1 for the result)

5 Multiplying polynomials

/ 4 pts

- a. $6x^3 + 3x^2 - 18x$ (1 pt)
- b. $x^2 - 3x + 8x - 24 = x^2 + 5x - 24$ (1 pt)
- c. $x^3 + 2x^2 + 3x - x^2 - 2x - 3 = x^3 + x^2 + x - 3$ (2 pts: 1 for the distribution, 1 for combining like terms)

6 Special products

/ 3 pts

- a. $x^2 + 20x + 100$ (1 pt)
- b. $9x^2 - 24x + 16$ (1 pt)
- c. $36x^2 - 25$ (1 pt)



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