FIBO · LEARN, PRACTICE & EXPLORE MATH

Unit 8 · Polynomials & Factoring — Unit Test

16 questions · 16 points · show your work in the box under each question

Name _____ Date _____

Class _____

Directions: Answer each question. Show your work in the box — partial credit rewards clear steps. No calculators unless your teacher says so.

1 **What is the degree of $7x^4 - 3x^2 + x$?** [1 pt]

2 **Classify $5x^3 - 2$: monomial, binomial, or trinomial? (Type one word.)** [1 pt]

3 **Add: $(2x^2 - 3x + 4) + (5x^2 + x - 2)$. (Type like 7x^2-2x+2.)** [1 pt]

4 **Multiply: $(x - 7)(x + 2)$. (Type like x^2-5x-14.)** [1 pt]

5 **Subtract: $(4x^2 + 5x) - (x^2 - 3x + 2)$. (Type like 3x^2+8x-2.)** [1 pt]

6 **Factor: $10x^2 + 15x$. (Type like 5x(2x+3).)** [1 pt]

7 **Factor completely: $4x^3 - 8x^2 + 12x$. (Type like 4x(x^2-2x+3).)** [1 pt]

8 **Factor: $x^2 + 9x + 20$. (Type like (x+4)(x+5).)** [1 pt]

9 **Factor: $x^2 - 7x + 12$. (Type like (x-3)(x-4).)** [1 pt]

10 **Factor: $x^2 + 3x - 10$. (Type like (x+5)(x-2).)** [1 pt]

11 **Factor: $2x^2 + 7x + 3$. (Type like (2x+1)(x+3).)** [1 pt]

12 **Factor: $3x^2 - 5x - 2$. (Type like (3x+1)(x-2).)** [1 pt]

13 **Factor: $9x^2 - 16$. (Type like (3x+4)(3x-4).)** [1 pt]

14 **Factor: $x^2 + 10x + 25$. (Type like (x+5)^2.)** [1 pt]

15 **Which is a difference of squares?** [1 pt]

- **A.** $x^2 + 9$
- **B.** $x^2 - 9$
- **C.** $x^2 + 6x + 9$
- **D.** $9x^2 + 16$

16 **Factor: $4x^2 - 36$. (Hint: GCF first! Type like 4(x+3)(x-3).)** [1 pt]

Grade chart

Grade	Percent	Points (of 16)
A	90–100%	14.5–16 pts
B	80–89%	13–14 pts
C	70–79%	11.5–12.5 pts
D	60–69%	10–11 pts
F	Below 60%	below 10 pts