

# Polynomial Quiz

## Form A

Name \_\_\_\_\_

Period \_\_\_\_\_

For problems 1-4, simplify each polynomial expression.

*Write your answer on the line to the right.*

1.  $(3x^4 + 3x^2 - 8) + (2x^4 + 3x^3 + 12)$  1) \_\_\_\_\_

2.  $(5x^3 - 2x^2 + x - 4) + (3x^4 + 5x^3 - 3x^2 - x + 6)$  2) \_\_\_\_\_

3.  $(4x^3 + 3x^2 - 7) - (x^2 + x - 5)$  3) \_\_\_\_\_

4.  $(5x^4 + x^2 - x + 13) - (2x^4 - 2x^2 + x - 5)$  4) \_\_\_\_\_

For numbers 5-10, multiply each polynomial expression.

*Write your answer on the line to the right.*

5.  $x(3x + 5)$  5) \_\_\_\_\_

6.  $3x^3(-2x^2 + x - 5)$  6) \_\_\_\_\_

7.  $(x - 5)(x + 3)$  7) \_\_\_\_\_

8.  $(x - 5)(2x - 5)$  8) \_\_\_\_\_

9.  $(x + 3)^2$  9) \_\_\_\_\_

10.  $(2x - 3)(2x + 3)$  10) \_\_\_\_\_

For problems 11-20, factor each polynomial expression completely.

*Write your answer on the line to the right.*

11.  $3x + 9$  11) \_\_\_\_\_

12.  $3x^3 - 6x + 12x$  12) \_\_\_\_\_

13.  $5x^3 + 5$  13) \_\_\_\_\_

14.  $x^2 - 9$  14) \_\_\_\_\_

15.  $x^2 + 6x + 9$  15) \_\_\_\_\_

16.  $x^2 + 10x + 25$  16) \_\_\_\_\_

17.  $x^2 - 6x + 9$  17) \_\_\_\_\_

Keep going...

18.  $x^2 - 2x - 15$  18) \_\_\_\_\_

19.  $x^2 + 8x + 12$  19) \_\_\_\_\_

20.  $2x^2 - 9x + 10$  20) \_\_\_\_\_

For numbers 21-25, solve each equation.

*Put BOTH of your answers on the line to the right.*

21.  $(x + 6)(x - 5) = 0$

22.  $(3x - 4)(x - 5) = 0$  21) \_\_\_\_\_

23.  $x^2 - 2x - 15 = 0$  22) \_\_\_\_\_

24.  $2x^2 - 9x + 9 = 0$  23) \_\_\_\_\_

25.  $x^2 + 5x + 9 = 5$  24) \_\_\_\_\_

25) \_\_\_\_\_