Name: _____

Multiplying Polynomials

State the sum of the product of the inner terms and the product of the outer terms.

1) $(x + 5)(x + 3)$

2) $(2a + 1)(a + 5)$

3) $(x - 5)(5x - 3)$

4) $(5b - 3)(2b - 1)$

5) $(3a - 4)(4a + 1)$

6) $(4x + 2)(4x - 2)$

Multiply.

7) $(c + 2)(c + 8)$

8) $(2x + 1)(x + 8)$

9) $(x - 4)(x - 8)$

10) $(2a + 5d)(4a + 8d$

11) $(2x + 3y)(5x + 2y)$

12) $(5q + 2r)(8q - 3r)$

13) $(2x - \frac{1}{2})(5x + \frac{1}{2})$

14) $(3x + \frac{1}{4})(6x - \frac{1}{2})$

15) $(\frac{1}{3}x + \frac{1}{2})(\frac{2}{3}x - \frac{1}{2})$

16) $(2r + 0.1)(5r - 0.3)$

17) $(0.2x + 0.5y)(0.2x - 0.5y)$

18) $(0.5x + 0.3)(0.8x - 0.6)$

19) $(a + 2)(a^2 - 5a + 9)$

20) $(2x + 1)(x^2 + 7x - 9)$

21) $(4x - 3y)(3x^2 + 5xy + y^2)$

22) $(0.3m + 2)(0.2m^2 - 1.1m + 0.7)$

23) $(\frac{1}{2}a + \frac{2}{3})(a^2 + \frac{2}{3}a + \frac{1}{6})$

24) $(0.6a + 0.5)(0.7a2 - 0.2a - 1.1)$

Multiply in column form.

25) $(5x - 2)(7 - 5x^2 + 2x)$

26) $(-2x^2 + 3x - 8)(3x^2 + 7x - 5)$

27) $(0.2x^2 + 3x - 2)(3x^2 - 0.3x - 3)$

28) $\left(\frac{1}{2}x^2 + 4\right)\left(\frac{1}{2}x^2 - 4\right)$

29) The perimeter of a football field is 1040 feet. The length of the field is 120 feet less than three times the width. What are the dimensions of the field?

30) The base of a triangular field is x+4 and the height is x+2. Write an algebraic expression for the area of the triangular field.