Name: _____ Date: _____

Mixed Polynomial Multiplication Review

Questions 1 through 13 refer to the following:

Write the given expression as the sum or difference of monomials:

1) $3(2x - 5) + 5(4 - 3x)$

Show your work.

Answer: _____

2) $8(2x - 3) - 2(3 - 2x)$

Show your work.

Answer: _____

3) $3x - [2 - (5x - 7)]$

Show your work.

Answer: _____

4) $x - [x - (x - 1)]$

Show your work.

Answer: _____

5) $4(3 - 2c) + 5c$

Show your work.

Answer: _____

6) $11z + 2(6z - 1) + 3$

Show your work.

Answer: _____

7) $r(s - t) - t(s - r)$

Show your work.

Answer: _____

8) $-3c(4 + c) - 2c(5 - 3c)$

Show your work.

Answer: _____

9) $-5[3y - 4(y + 3)]$

Show your work.

Answer: _____

10) $10y^2 - 2[12 - 4y(y + 3)]$

Show your work.

Answer: _____

11) $(x + 9)(x - 2) - x^2$

Show your work.

Answer: _____

12) $12y^2 - (2y + 3)(y - 1)$

Show your work.

Answer: _____

13) $(a - 7)^2 - (a + 4)^2$

Show your work.

Answer: _____

Questions 14 through 17 refer to the following:

Write the given expression as a polynomial in standard form:

14) $3(x + 2) - 4(x - 3)$

Show your work.

Answer: _____

15) $(x - 2)^2 + (x + 2)^2$

Show your work.

Answer: _____

16) $3(x - 4) + 2(x - 4)$

Show your work.

Answer: _____

17) $3(x + 3)^2 - 2(x - 2)$

Show your work.

Answer: _____

18) Represent, as a polynomial is standard form, the area of a rectangle whose length is $11y + 5$ and width is $y - 4$.

Show your work.

Answer: _____

19) The dimensions of a rectangle are represented by $11x - 8$ and $3x + 5$. Represent the area of the rectangle as a polynomial is standard form.

Show your work.

Answer: _____

20) The dimensions of a rectangle are represented by $7c - 8d$ and $3c + 5d$. Represent the area of the rectangle as a sum of monomials.

Show your work.

Answer: _____

1) $-9x + 5$
WORK SHOWN: $3(2x - 5) + 5(4 - 3x) = 6x - 15 + 20 - 15x = -9x + 5$

2) $20x - 30$
WORK SHOWN: $8(2x - 3) - 2(3 - 2x) = 16x - 24 - 6 + 4x = 20x - 30$

3) $8x - 9$
WORK SHOWN: $3x - [2 - (5x - 7)] = 3x - (2 - 5x + 7) = 3x - (9 - 5x) = 3x - 9 + 5x = 8x - 9$

4) $x - 1$
WORK SHOWN: $x - [x - (x - 1)] = x - (x - x + 1) = x - (1) = x - 1$

5) $-3c + 12$
WORK SHOWN: $4(3 - 2c) + 5c = 12 - 8c + 5c = -3c + 12$

6) $23z + 1$
WORK SHOWN: $11z + 2(6z - 1) + 3 = 11z + 12z - 2 + 3 = 23z + 1$

7) $rs - st$
WORK SHOWN: $r(s - t) - t(s - r) = rs - rt - st + rt = rs - st$

8) $3c^2 - 22c$
WORK SHOWN: $-3c(4 + c) - 2c(5 - 3c) = -12c - 3c^2 - 10c + 6c^2 = 3c^2 - 22c$

9) $5y + 60$
WORK SHOWN: $-5[3y - 4(y + 3)] = -5(3y - 4y - 12) = -5(-y - 12) = 5y + 60$

10) $18y^2 + 24y - 24$
WORK SHOWN: $10y^2 - 2[12 - 4y(y + 3)] = 10y^2 - 2(12 - 4y^2 - 12y) = 10y^2 - 24 + 8y^2 + 24y = 18y^2 + 24y - 24$

11) $7x - 18$
WORK SHOWN: $(x + 9)(x - 2) - x^2 = x^2 - 2x + 9x - 18 - x^2 = 7x - 18$

12) $10y^2 - y + 3$
WORK SHOWN: $12y^2 - (2y + 3)(y - 1) = 12y^2 - (2y^2 - 2y + 3y - 3) = 12y^2 - (2y^2 + y - 3) = 12y^2 - 2y^2 - y + 3 = 10y^2 - y + 3$

13) $-22a + 33$
WORK SHOWN: $(a - 7)^2 - (a + 4)^2 = (a - 7)(a - 7) - (a + 4)(a + 4) = a^2 - 7a - 7a + 49 - (a^2 + 4a + 4a + 16) =$
$a^2 - 14a + 49 - a^2 - 8a - 16 = -22a + 33$

14) $-x + 18$
WORK SHOWN: $3(x + 2) - 4(x - 3) = 3x + 6 - 4x + 12 = -x + 18$

15) $2x^2 + 8$
WORK SHOWN: $(x - 2)^2 + (x + 2)^2 = (x - 2)(x - 2) + (x + 2)(x + 2) = x^2 - 2x - 2x + 4 + x^2 + 2x + 2x + 4 = 2x^2 + 8$

16) $5x - 20$
WORK SHOWN: $3(x - 4) + 2(x - 4) = 3x - 12 + 2x - 8 = 5x - 20$

17) $3x^2 + 16x + 31$
WORK SHOWN: $3(x + 3)^2 - 2(x - 2) = 3(x + 3)(x + 3) - 2x + 4 = 3(x^2 + 3x + 3x + 9) - 2x + 4 = 3(x^2 + 6x + 9) - 2x + 4 =$
$3x^2 + 18x + 27 - 2x + 4 = 3x^2 + 16x + 31$

18) $11y^2 - 39y - 20$

WORK SHOWN: $(11y + 5)(y - 4) = 11y^2 - 44y + 5y - 20 = 11y^2 - 39y - 20$

19) $33x^2 + 31x - 40$

WORK SHOWN: $(11x - 8)(3x + 5) = 33x^2 + 554x - 24x - 40 = 33x^2 + 31x - 40$

20) $21c^2 + 11cd - 40d^2$

WORK SHOWN: $(7c - 8d)(3c + 5d) = 21c^2 + 35cd - 24cd - 40d^2 = 21c^2 + 11cd - 40d^2$