Math III

Name_____ ID: 1

Multiplying Polynomials

Date_____ Period____

Find each product.

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

$6x^2 + 2x - 15x - 5$

$6x^2 - 13x - 5$

2) $(2x - 5)(x + 5)$

$2x^2 + 10x - 5x - 25$

$2x^2 + 5x - 25$

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

$5x^2 + 2x + 25x + 10$

$5x^2 + 27x + 10$

4) $(3k - 5)(4k + 3)$

$12k^2 + 9k - 20k - 15$

$12k^2 - 11k - 15$

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

$8b^2 - 6b + 16b - 12$

$8b^2 + 10b - 12$

6) $(4r + 1)(r - 3)$

$4r^2 - 12r + r - 3$

$4r^2 - 11r - 3$

7) $(3x-5)(4x^2-2x-1)$

$12x^3 - 6x^2 - 3x - 20x^2 + 10x + 5$

$12x^3 - 26x^2 + 7x + 5$

8) $(x+2)(4x^2+4x-1)$

$4x^3 + 4x^2 - x + 8x^2 + 8x - 2$

$4x^3 + 12x^2 + 7x - 2$

9) $(5x+5)(3x^2+5x+2)$

$15x^3 + 25x^2 + 10x + 15x^2 + 25x + 10$

$15x^3 + 40x^2 + 35x + 10$

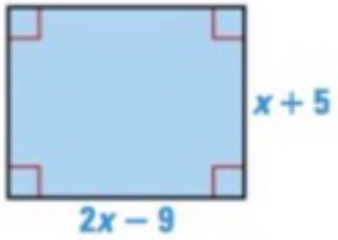
10) $(2r-5)(4r^2-2r+2)$

$8r^3 - 4r^2 + 4r - 20r^2 + 10r - 10$

$8r^3 - 24r^2 + 14r - 10$

Find the AREA of the shaded region below (for 11-16)

11.

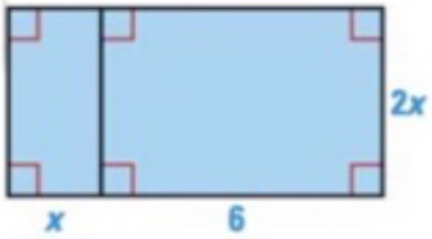


$(2x-9)(x+5)$

$2x^2 + 10x - 9x - 45$

$2x^2 + x - 45$

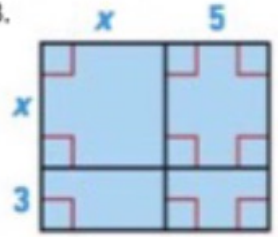
12.



$(x+6)(2x)$

$2x^2 + 12x$

13.

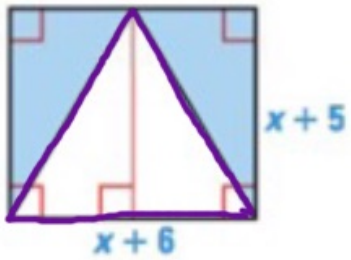


$(x+3)(x+5)$

$x^2 + 5x + 3x + 15$

$x^2 + 8x + 15$

14.



$(x+6)(x+5)$

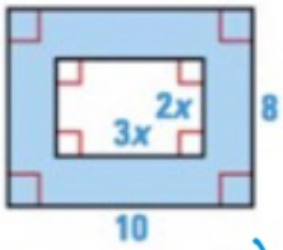
$x^2 + 5x + 6x + 30$

$x^2 + 11x + 30$

$(x^2 + 11x + 30) - (.5x^2 + 5.5x + 15)$

$.5x^2 + 5.5x + 15$

15.



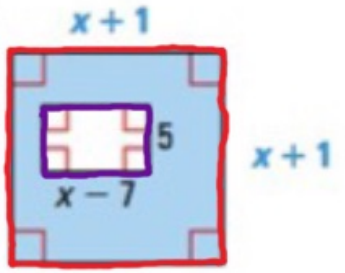
$80 - (6x^2)$

$-6x^2 + 80$

$(x+1)(x+1)$

$x^2 + 2x + 1$

16.



$5(x-7)$

$5x - 35$

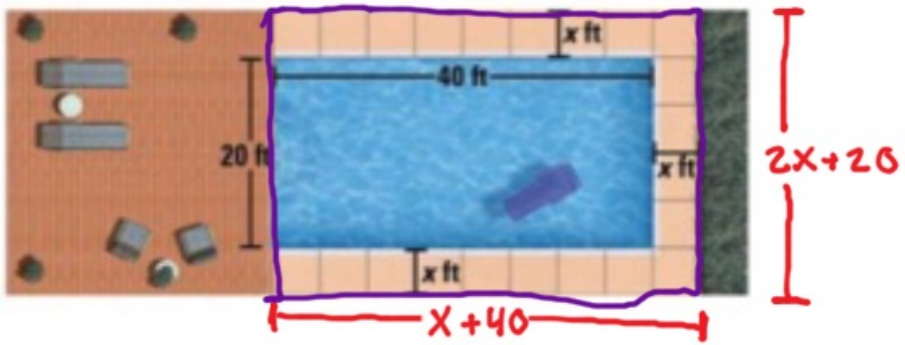
$x^2 + 2x + 1 - (5x - 35)$

$x^2 - 3x + 36$

17. **SWIMMING POOL** A rectangular swiming pool is bordered on one side by a deck. A contractor is hired to build a walkway along the remaining three sides of the pool. The width of the walkway is the same on every side, as shown.

a. Write a polynomial that represents the total area of the pool and the walkway.

b. Find the combined area of the pool and the walkway when the width of the walkway is 5 feet.



Pool area

$(40)(20)$

$800\ ft^2$

Walkway

$(2X+20)(40+X)$

$80X + 2X^2 + 800 + 20X$

$2X^2 + 100X + 800$

$2X^2 + 100X + 800 - 800$

$2X^2 + 100X$ ← Walkway

Combined

$22X^2 + 800$

$22(5)^2 + 800 = 1350$