Math III Name _____ ID: 1

Adding and Subtracting Polynomials

Date _____ Period ____

Simplify each expression.

1) $(8x^4 - 7x) - (6x^2 + 5x^4 + 3x)$

$8x^4 - 7x - 6x^2 - 5x^4 - 3x$

$3x^4 - 6x^2 - 10x$

2) $(4x^4 - 7x) - (6x^3 + 6x^4 - 2x)$

$4x^4 - 7x - 6x^3 - 6x^4 + 2x$

$-2x^4 - 6x^3 - 5x$

3) $(6b^3 + 4b^2) - (4b^2 + 6b^4 - 3b^3)$

$6b^3 + 4b^2 - 4b^2 - 6b^4 + 3b^3$

$-6b^4 + 9b^3$

4) $(2p - 4) + (4p - 4 - 2p^3)$

$-2p^3 + 6p - 8$

5) $(4r^4 - 4r) + (r^3 - 5r - 3r^4)$

$r^4 + r^3 - 9r$

6) $(2 - 4n^4) - (2n^4 + 8n^3 - 8)$

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

$-6n^4 - 8n^3 + 10$

7) $(6n - 6) + (4 + 3n - 3n^2)$

$-3n^2 + 9n - 2$

8) $(7x^3 + 1) + (3x + 7 - 3x^3)$

$4x^3 + 3x + 8$

9) $(7r^2 + 7r^3) - (2r^4 + 5r^2 - r^3) + (3r^3 + 8r^2)$

$7r^2 + 7r^3 - 2r^4 - 5r^2 + r^3 + 3r^3 + 8r^2$

$-2r^4 + 11r^3 + 10r^2$

10) $(4x^3 + 8x^2) - (4x + 2 - 3x^3) + (6 + 4x)$

$4x^3 + 8x^2 - 4x - 2 + 3x^3 + 6 + 4x$

$7x^3 + 8x^2 + 4$

2 of 2

11 Jeanette and Tim find the answer to $(3x^2 - 5x) - (4 - 2x)$. Jeanette claims the simplified answer has three terms Tim says it only has two terms. Who is correct? How do you know?

$3x^2 - 5x - 4 + 2x$

$3x^2 - 3x - 4$

Jeanette terms are $3x^2, -3x, -4$

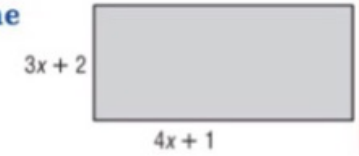
12 **Ross has (8x – 5) tickets for Chuck E Cheese. He is going to play today and wants to buy a prize that is (15x + 1) tickets. How many tickets must he win to have enough tickets to buy the prize?**

$(15x+1) - (8x-5)$

$15x + 1 - 8x + 5$

$7x + 6$

13 **Write an expression for the area of the rectangle.**



perimeter

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

$6x + 4 + 8x + 2$

$14x + 6$

14 The profit a business makes is found by subtracting the cost to produce an item C from the amount earned in revenue R. The cost to produce and the sales amount could be modeled by the following equations, where x is the number of items produced.

$C = 100x^2 + 500x - 300$

$R = 150x^2 + 450x + 200$

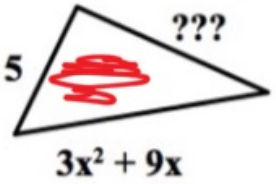
Find an equation that models the profit.

$(150x^2 + 450x + 200) - (100x^2 + 500x - 300$

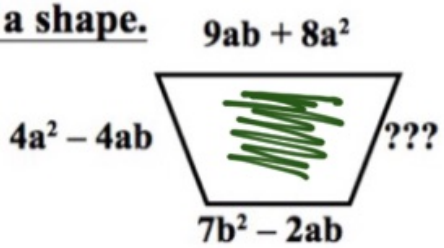
$50x^2 - 50x + 500$

Find the missing side of a shape.

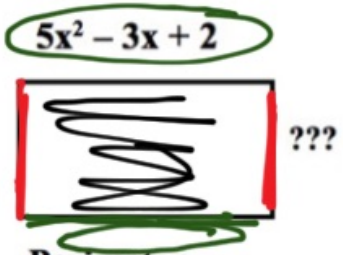
15 - 17



Perimeter
$5x^2 + 7x + 12$



Perimeter
$9b^2 - 2ab + 12a^2$



Perimeter
$14x^2 + 4x - 8$

$(5x^2 + 7x + 12) - (3x^2 + 9x) - (2x^2 - 5)$

$5x^2 + 7x + 12 - 3x^2 - 9x - 2x^2 + 5$

$-2x + 17$

$9b^2 - 2ab + 12a^2 - (7b^2 + 3ab + 12a^2)$

$9b^2 - 2ab + 12a^2 - 7b^2 - 3ab - 12a^2$

$2b^2 - 5ab$

$14x^2 + 4x - 8 - (10x^2 - 6x + 4)$

$\frac{4x^2 + 10x - 12}{2} = 2x^2 + 5x - 6$