Brain Teaser:

At King's, the ratio of males to females writing the Pascal Contest is 3 : 7. If there are 21 males writing the Contest, what is the total number of students writing?

Part 1: Do It Now

1) What is the degree of the term: $3x^2yz$

2) What is the degree of this polynomial: $3a^2b^3c + 2ab^4c^2 - 7abc^2$

3) Classify the polynomial from question **2)** by name:

Part 2: Like Terms

Like Terms are terms that have the EXACT same _____ with the EXACT same _____.

These are like terms:	These are NOT like terms:
$3x^2y$ and $15x^2y$	$3x^2y$ and $3x^2y^2$

Identify the like terms in this polynomial:

$3x^3 - 5x + 2x^3 + 3 - 1 + 4x + 12x^3 - 120$

Identify the like terms in this polynomial:

$5x^2y - 9xy + 6x^2y + 17.3x - 2xy + 4x^2y + 92x - 133xy$

Part 3: Collecting Like Terms

When adding/subtracting like terms, keep the variables the same, and add/subtract only the coefficients.

Example:

$6x + 4 + 8x + 3$

=   **Step 1:** Rearrange like terms into groups

=   **Step 2:** Add/Subtract the like terms

Practice Collecting Like Terms

1) $3x + 4x$ **2)** $3x^2 + 5x^2 + 3$

3) $2b - b + 7 - 8 + 3b$ **4)** $3x^2 + 2 - 6x + 9x - 3x^2$
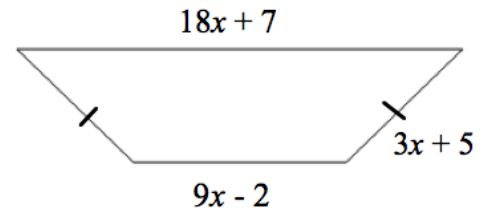
5) $2x^2 - 3y^2 + xy + 2y^2 - 8x^3$ **6)** $a^2b + 2ab - ab^2 + 2ab^2 - 3ab + a^2b$

> **Note:** degree of terms should be in descending order (highest degree terms on the left).

Part 4: Apply our Knowledge

a) Write an expression in simplest form for the perimeter of the given shape

$$18x + 7$$

$$3x + 5$$

$$9x - 2$$

b) Evaluate the expression if $x = 5$. (What is the perimeter?)