

# Warmup #2

HW → Make sure your name is on it

is on it

$$1) -10(u+v) + 8(u-1) - 3(u+6)$$
$$\underline{-10u - 10v + 8u - 8 - 3u - 18}$$
$$\underline{-5u - 10v - 26}$$

$$2) -14y - 10r + 19 + 4r - 9y - 30$$
$$\underline{-23y - 6r - 11}$$

3) Subtract  $y^5 - y^4$  from  $y^2 + 3y^4$  → flip

$$y^2 + 3y^4 - (y^5 - y^4)$$
$$\underline{y^2 + 3y^4 - y^5 + y^4} = 4y^4 + y^2 - y^5$$
$$\underline{-y^5 + 4y^4 + y^2}$$

Standard Form

$$4) 10x(-3x^3 - 4x + 7)$$
$$\underline{-30x^4 - 40x^2 + 70x}$$

exponent  
how many x's are there

1. Write an expression in simplest form to represent the perimeter of each figure below.

<p style="text-align: center;"><math>6x - 2</math></p> <p style="text-align: center;"><math>4x + 3</math>      <math>4x + 3</math></p> <p style="text-align: center;"><math>6x - 2</math></p> <p style="text-align: center;"><math>4x + 3 + 4x + 3 + 6x - 2 + 6x - 2</math></p> <p style="text-align: center;"><u><math>20x + 2</math></u></p>	<p style="text-align: center;"><math>4x - 7</math></p> <p style="text-align: center;"><math>2x + 5</math>      <math>2x + 5</math></p> <p style="text-align: center;"><math>4x - 7</math></p> <p style="text-align: center;"><math>2x + 2x + 2x + 5 + 2x + 5 + 4x - 7 + 4x - 7</math></p> <p style="text-align: center;"><u><math>16x - 4</math></u></p>
<p style="text-align: center;"><math>5x - 4</math>      <math>5x - 4</math></p> <p style="text-align: center;"><u><math>13x - 6</math></u></p> <p style="text-align: center;"><math>5x - 4 + 5x - 4 + 3x + 2</math></p>	<p style="text-align: center;"><math>3x</math>      <math>2x + 2</math></p> <p style="text-align: center;"><math>2x + 2</math>      <math>2x + 8</math></p> <p style="text-align: center;"><math>3x</math>      <math>3x</math>      <math>2x + 8</math></p> <p style="text-align: center;"><math>3x + 2x + 2 + 2x + 8 + 3x + 2x + 8 + 3x + 3x</math></p> <p style="text-align: center;"><u><math>20x + 20</math></u></p>

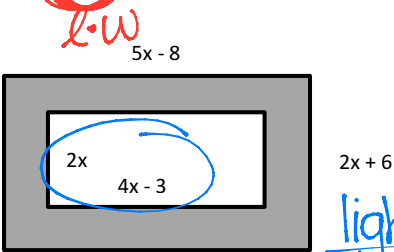
2. Write an expression in simplest form to represent the area of each figure below.

<p style="text-align: center;"><math>3x + 3</math></p> <p style="text-align: center;"><math>2x + 5</math></p> <p style="text-align: center;"><math>6x^2 + 21x + 15</math></p> <p style="text-align: center;"> <math display="block">\begin{array}{r} 3x \quad 3 \\ 2x \quad 3 \\ \hline 6x^2 \quad 6x \\ 5 \quad 15 \\ \hline 15x \quad 15 \end{array}</math> </p>	<p style="text-align: center;"><math>x + 4</math></p> <p style="text-align: center;"><math>3x - 2</math></p> <p style="text-align: center;"><math>x \cdot x = x^2</math></p> <p style="text-align: center;"><math>3x^2 + 10x - 8</math></p> <p style="text-align: center;"> <math display="block">\begin{array}{r} x \quad 4 \\ 3x \quad 3x^2 \quad 12x \\ -2 \quad -2x \quad -8 \\ \hline 3x^2 + 10x - 8 \end{array}</math> </p>
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3. Find the missing side length using the given perimeter.

<p><u>Perimeter</u>  <math>P = 5x + 10</math></p> <p><math>5x + 10 - (4x + 6)</math>  <math>5x + 10 - 4x - 6</math>  <math>x + 4</math></p>	<p><math>P = 12x + 4</math></p> <p><math>12x + 4 - (2x - 3) - (2x - 3)</math>  <math>12x + 4 - 8x + 6 - 8x + 6</math>  <math>4x + 8</math></p>
<p><math>P = 48x + 8</math></p> <p><math>48x + 8 - 4x - 4x</math>  <math>40x + 8 \rightarrow 2 \text{ sides}</math>  <math>\frac{40x + 8}{2} = 20x + 4</math></p>	<p><math>P = 24x - 4</math></p> <p><math>24x - 4 - (7x - 4) - (7x - 4)</math>  <math>24x - 4 - 14x + 8 - 14x + 8</math>  <math>10x + 4 \rightarrow 2 \text{ sides}</math>  <math>\frac{10x + 4}{2} = 5x + 2</math></p>

4. Find the area of the shaded region.



(shady)  $5x - 8$   
 $2x \times (5x - 8) = 10x^2 - 16x$   
 $6 \times (2x) = 12x$   
 $10x^2 + 14x - 48$

Shady - light  
 $10x^2 + 14x - 48 - (8x^2 - 6x)$   
 $2x(4x - 3) = 8x^2 - 6x$