

10/17/17

Day 2 – Adding & Subtracting Polynomials

For question 1-6, simplify the expression completely.

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

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

$$-2x + x^2 + 4$$

$$\boxed{x^2 - 2x + 4}$$

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

$$\begin{array}{r} 5c^2 + 4c + 2 \\ - 3c^2 - 4c + 3 \\ \hline 2c^2 + 5 \end{array}$$

$$3) (-3x^2 + 5x + 6) + (x^2 + 2x - 3)$$

$$\begin{array}{r} -3x^2 + 5x + 6 \\ x^2 + 2x - 3 \\ \hline \end{array}$$

$$\boxed{-2x^2 + 7x + 3}$$

$$4) (2y^2 + 15y - 4) + (7y^2 - 10y + 6)$$

$$\begin{array}{r} 2y^2 + 15y - 4 \\ + 7y^2 - 10y + 6 \\ \hline \end{array}$$

$$(9y^2 + 5y + 2)$$

$$5) (4b^2 - 5b + 8) - (2b^2 - 11b + 10)$$

$$4b^2 - 5b + 8$$

$$- 2b^2 + 11b - 10$$

$$2b^2 + 6b - 2$$

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

$$\begin{array}{r} 7x^2 - 6x + 3 \\ - x^2 - 5x - 4 \\ \hline 6x^2 - 11x - 1 \end{array}$$

7) When $5x^2 - 3x + 4$ is subtracted from $3x^2 - 8x + 10$ the result is:

$$(3x^2 - 8x + 10) - (5x^2 - 3x + 4)$$

$$\begin{array}{r} 3x^2 - 8x + 10 \\ - 5x^2 + 3x - 4 \\ \hline 2x^2 - 5x + 6 \end{array}$$

8) What is the sum of $6x^2 - x + 2$ and $3x^2 - 2x - 6$?

$$\begin{array}{r} 6x^2 - x + 2 \\ + 3x^2 - 2x - 6 \\ \hline 9x^2 - 3x - 4 \end{array}$$

9) What is the sum of $-2x^2 + 3x + 5$ and $6x^2 + x - 2$?

$$\begin{array}{r} -2x^2 + 3x + 5 \\ 6x^2 + x - 2 \\ \hline 4x^2 + 4x + 3 \end{array}$$

10) What is the result when $5a + 4$ is subtracted from $8a - 6$?

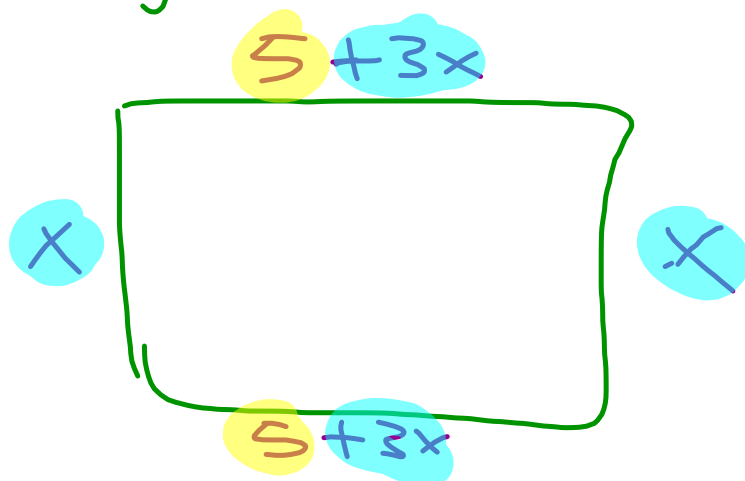
$$(8a - 6) - (5a + 4)$$

$$\begin{array}{r} 8a - 6 \\ - 5a - 4 \\ \hline 3a - 10 \end{array}$$

11) The length of a rectangle is five more than three times the width. Express the perimeter of the rectangle in simplest terms of x .

$$\text{Let width} = x$$

$$\text{Length} = 5 + 3x$$

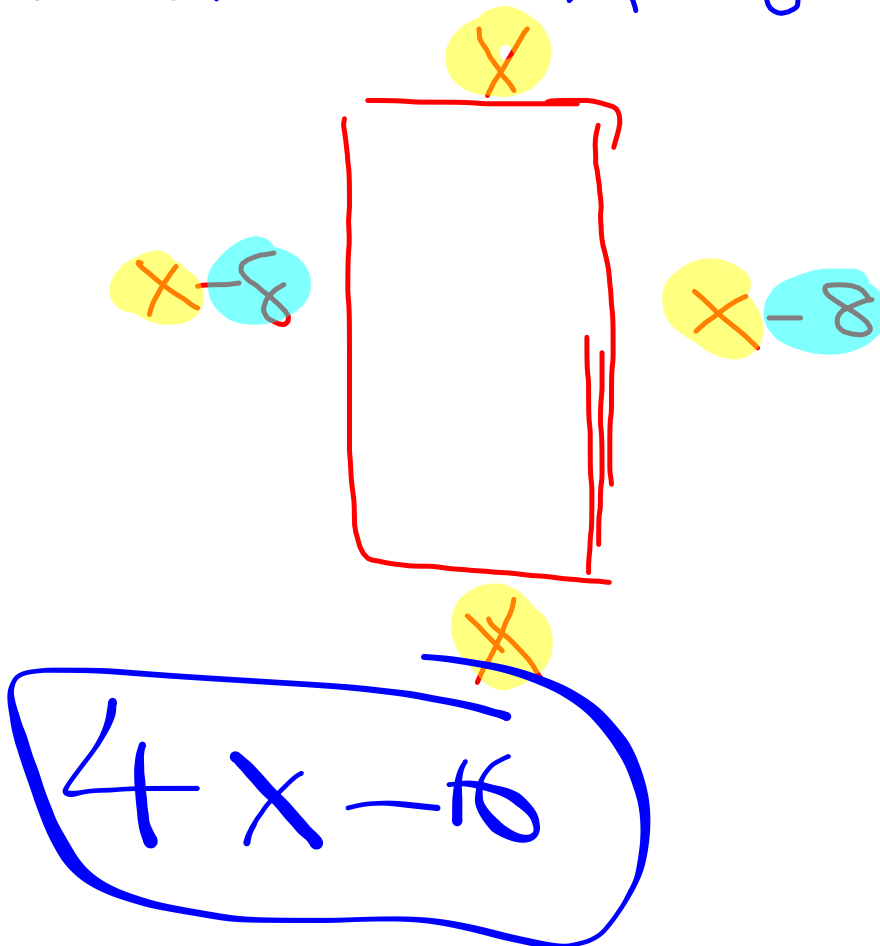


$$P = 8x + 10$$

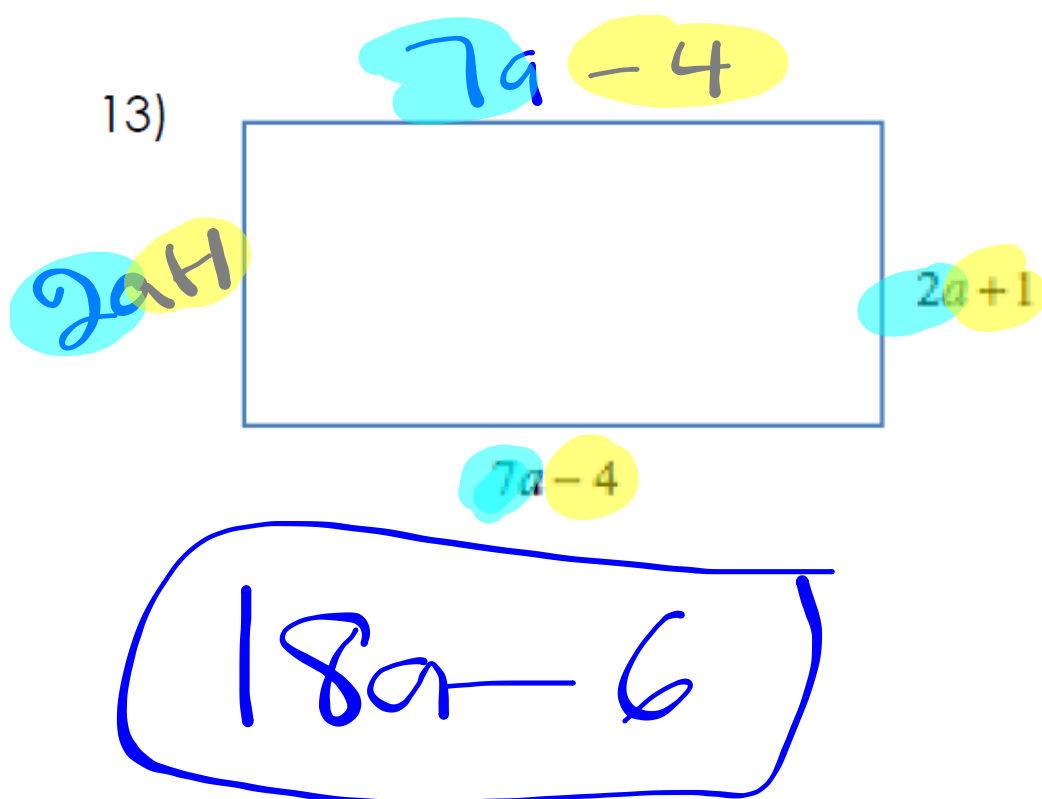
12) The width of a rectangle is eight less than the length. Express the perimeter of the rectangle in simplest terms of x .

$$\text{Let length} = x$$

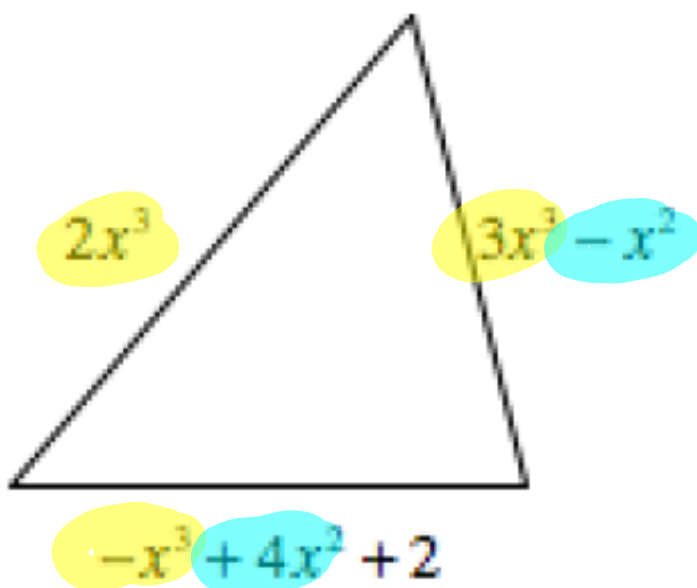
$$\text{width} = x - 8$$



Find the perimeter of the figure **in simplest terms.**



14)



$$P = 4x^3 + 3x^2 + 2$$

Preview of Multiplying Polynomials using the Box (Area Model) Method



Multiplying Polynomials

① $(x+2)(x+3)$ Box Method

	$x+2$	
x	x^2	$2x$
$+3$	$3x$	6

$$= x^2 + 5x + 6$$

$$\textcircled{2} (5x+6)(7x+9)$$

$5x + 6$

$7x$	$35x^2$	$42x$
$+9$	$45x$	54

$$= 35x^2 + 87x + 54$$