

# C: Adding and Subtracting Polynomials

## Add

→ Collect like terms.

## Subtract

→ Multiply negative sign into brackets.

→ Collect like terms.

## Examples:

• What addition statement does the diagram model?



$$(-x^2 + 2x)$$

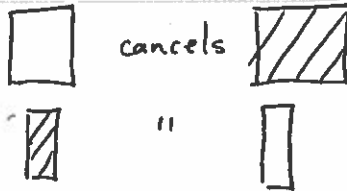
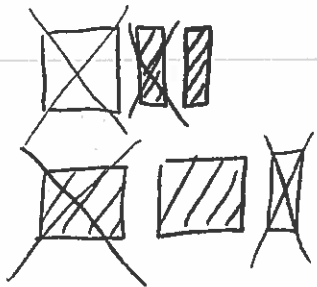


$$(2x^2 - 1x)$$

$$\text{Addition Statement} = (-x^2 + 2x) + (2x^2 - 1x)$$

• Show the solution by cancelling tiles.

\* same size but different colour tiles cancel!



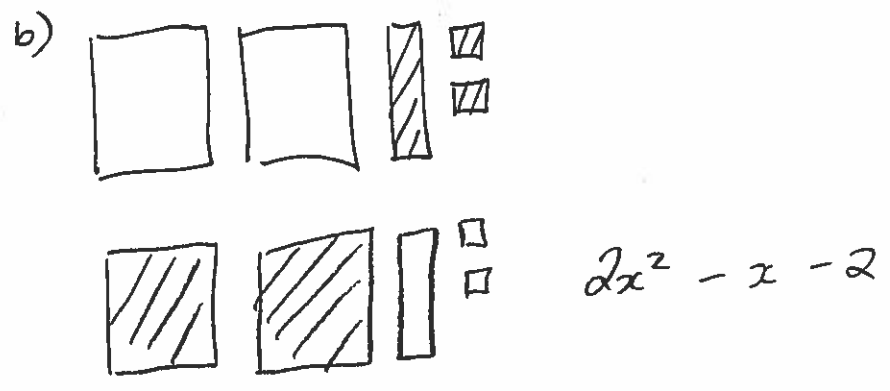
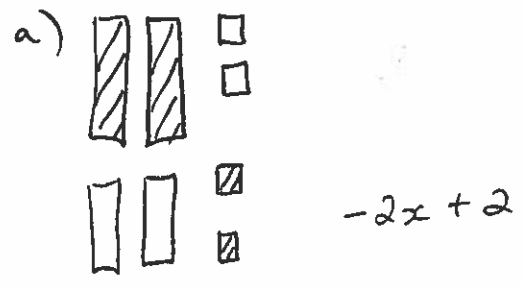
\* solution is tiles that remain.

Solution:



$$x^2 + x$$

2. What is the opposite to the expressions.



3. What is the opposite to each expression?  
 \* Just change the signs (+ → - ; - → +)

- a)  $-18x$                       b)  $10d + 12$                       c)  $-4x^2 + 6x - 10$   
 $+18x$                                $-10d - 12$                                $+4x^2 - 6x + 10$

Subtracting (multiply in negative sign ; combine like terms.)

5. a)  $(5 - 6w) - (-2 - 3w)$  multiply negative sign!  
 $(-)(-2) ; (-)(-3w)$   
 $= 5 - 6w + 2 + 3w$

→ now collect like terms.

$= -6w + 3w + 5 + 2$

$= -3w + 7$

b)  $(16c - 6) - (-10c)$   $(-)(-10c)$

$= 16c - 6 + 10c$

Collect like terms.

$= 26c - 6$

$$c) (-6r^2 - 10r - 4) - (2r^2 - 4r + 16) \quad (-X2r^2) \quad (-X-4r) \quad (-X+16)$$

$$= -6r^2 - 10r - 4 - 2r^2 + 4r - 16$$

$$= -6r^2 - 2r^2 - 10r + 4r - 4 - 16$$

$$= -8r^2 - 6r - 20$$

Assignment pg. 196 # 5 - 15

(omit # 6, 7, 16, 17)

↳ Completed yesterday.