HW 5.4 SOL

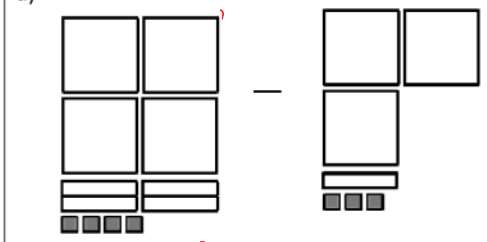
October 14, 2020 8:58 AM

Math 9 **Chapter 5.4 – Subtracting Polynomials** **Date:** _____

Name: _____ **Period:** _____

1. Write the polynomial difference modelled by each set of tiles.

a)

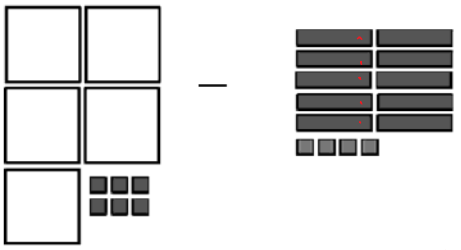


$(4x^2+4x-4)-(3x^2+x-3)$

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

x^2+3x-1

b)

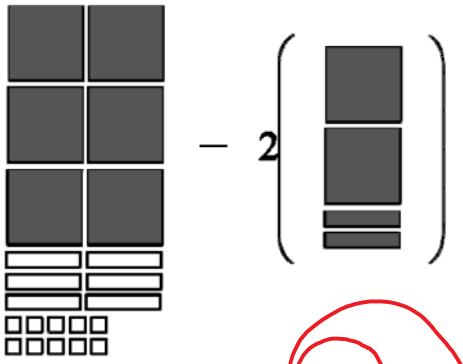


$(5x^2-6)-(-10x-4)$

$5x^2-6+10x+4$

$5x^2+10x-2$

c)

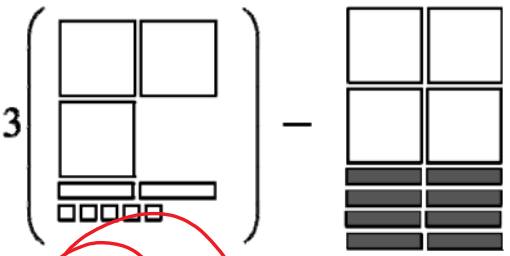


$(-6x^2+6x+10)-2(-2x^2-2x)$

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

$-2x^2+10x+10$

d)



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

$9x^2+6x+15-4x^2+8x$

$5x^2+14x+15$

2. Subtract these polynomials.

a)

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

b)

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

1

c)	d)
$-4x^2-12x+28$ $-\ 4x^2-9x-30$	$-x^2+11x-18$ $-\ 8x^2-4x+27$

3. Subtract.

a) $(4x+2)-(-2x+3)$ $4x+2+2x-3$ $6x-1$	b) $(-5x+2)-(x^2+x-3)$ $-5x+2-x^2-x+3$ $-x^2-6x+5$
c) $(-2x^2+3x-1)-(-x^2+x+3)$ $-2x^2+3x-1+x^2-x-3$ $-x^2+2x-4$	d) $(-2x+x^2-4)-(3-2x^2+4x)$ $-2x+x^2-4-3+3x^2-4x$ $3x^2-6x-7$
e) $(24x-12x^2+1)+(15-20x-3x^2)$ $24x-12x^2+1+15-20x-3x^2$ $-15x^2+4x+16$	f) $(x^2-3xy+y^2)-(-2xy+x^2-y^2)$ $x^2-3xy+y^2+2xy-x^2+y^2$ $2y^2-xy$
g) $(-7x^3-3x^2)-(x^3+7x^2+11x)-(7x^3+4x^2+10x)$ $-7x^3-3x^2-x^3-7x^2-11x-7x^3-4x^2-10x$ $-15x^3-14x^2-21x$	

h) $\left(-x^2y-5xy-16y\right)-\left(7x^2y+15y-10xy\right)-\left(-2xy+x^2y\right)$

$-x^2y-5xy-16y-7x^2y-15y+10xy+2xy-x^2y$

$-9x^2y+7xy-31y$

i) $\left(10x^2y-7xy^2-6xy+18x\right)-\left(-7x+9x^2y-18y^2x-4yx\right)-\left(-xy+10yx^2\right)$

$10x^2y-7xy^2-6xy+18x+7x-9x^2y+18xy^2+4xy+1xy-10x^2y$

$-9x^2y+11xy^2-1xy+25x$

$18x+7x$

$-6+4+1$

$-6+5=5-6$

4. Determine the answer to each of the following.

a) $9x-7(4-7x)$

$9x-28+49x$

$58x-28$

b) $-2(x-y)-(x+y)$

$-2x+2y-x-y$

$-3x+y$

c) $9(2xy+x+2y)-4(xy-3x-5y)$

$18xy+9x+18y-4xy+12x+20y$

$14xy+21x+38y$

d) $-x(x+4)+2(x^2-3)-x(x^2-x)$

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

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

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

e) $-x(xy+y)+y(x-y)-xy(x+2)$

$-x^2y-xy+yx-y^2-x^2y-2xy$

$-2x^2y-2xy-y^2$.

5. The perimeter of a triangle is $7y-3z$. Two sides are $4y+2z$ and $7z$. What is the other side?

6. The perimeter of a rectangle is $12w+8$ and the length is $4w-5$. What is the width?