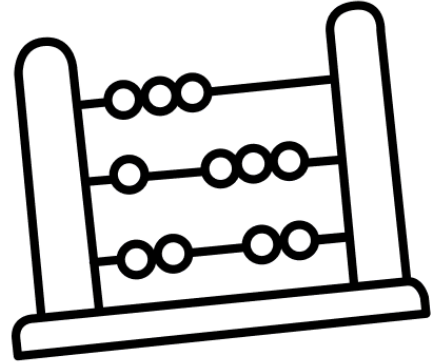


Wax soo saar binomial ah oo ka adag

Maths

Cutub: Tibaaxaha iyo qaaciidooyinka



Natiijo

Waxaan heli karaa wax soo saar binomial ah oo ka adag.

Binomial waa tibaax aljabra ah oo matalaya wadarta laba eray oo aan isku mid ahayn.

Tusaalooyin

$$x + 2 \qquad x^2 - x$$

$$5 - 6x \qquad a + 2y$$

Wax soo saar qayb ah (partial product) wuxuu iga jeedaa mid ka mid ah natiijooyinka isku dhufashada ee keena natiijada guud.

Wax soo saar binomial ah oo ka adag



Isticmaalka binomials u dhigma



Tirooyinka (Coefficients) ka weyn 1

Mararka qaarkood erayada binomials kuma jiraan isku nidaam.

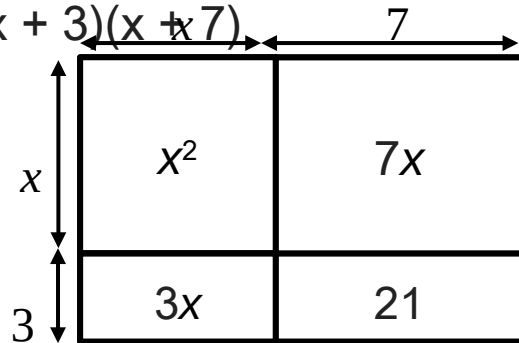
Sideen u heli karnaa wax soo saarka $(x + 3)(7 + x)$?

Waxaan dib u habayn karnaa erayada binomials si erayada isku midka ah ugu jiraan isku nidaam.

$$(7 + x) \equiv (x + 7)$$

Sidaas darteed $(x + 3)(7 + x)$ waxaa loo qori karaa $(x + 3)(x + 7)$

$$\equiv x^2 + 10x + 21$$

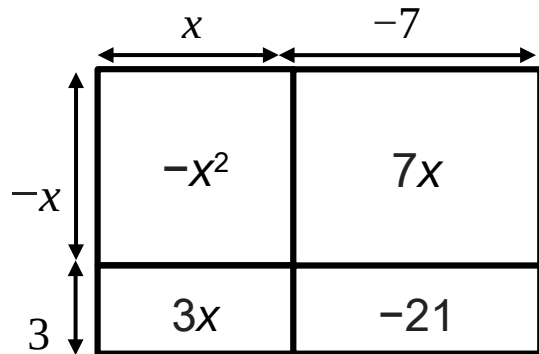


Sideen u qori karnaa $(3 - x)(x - 7)$ si erayada isku midka ah ugu jiraan isku nidaam labada qaws?

$$(3 - x) \equiv (3 + (-x)) \equiv (-x + 3)$$

Sidaas darteed $(3 - x)(x - 7)$ waxaa loo qori karaa $(-x + 3)(x - 7)$

Ka digtoonow markaad ku dhufanayso qiimayaal taban.



$$-x \times x \equiv -x^2$$

$$-x \times -7 \equiv 7x$$

$$3 \times x \equiv 3x$$

$$3 \times -7 \equiv -21$$

$$(3 - x)(x - 7) \equiv -x^2 + 10x - 21$$

Kee ka mid ah binomials-kaan ayaa u dhigma $(1 - x)$?

a $(-1 + x)$

b $(-x + 1)$



$$(1 - x) \equiv (1 + (-x)) \equiv (-x + 1)$$

c $(-x - 1)$

d $(x - 1)$

Ardayda qaar waxay helayaan badeecada $(x - 5)(2 - x)$

Waxaan dib u
qorayaa sidan
 $(x - 5)(-x + 2)$



Cabdi

Waxaan dib u
qorayaa sidan
 $(-5 + x)(2 - x)$



Yacquub

Waxaan helayaa
badeecada anigoon
dib u habayn



Nuur

Hababkan oo dhan miyay soo saari doonaan jawaab isku mid ah?

Habkee ayaad door bidaysaa?

Ardayda qaar waxay helayaan badeecada $(x - 5)(2 - x)$

Waxaan dib u
qorayaa sidan

$$(x - 5)(-x + 2)$$

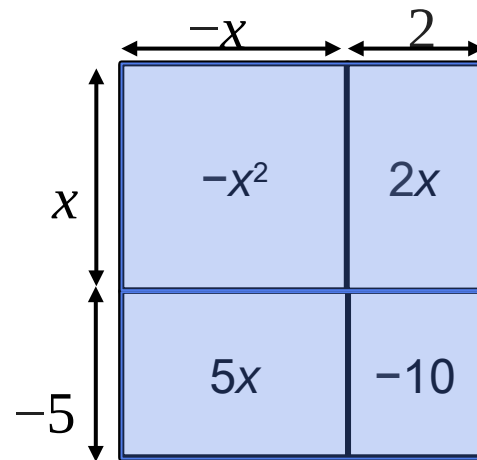


$$(x - 5)(-x + 2)$$

$$\equiv x(-x + 2) - 5(-x + 2)$$

$$\equiv -x^2 + 2x + 5x - 10$$

$$\equiv -x^2 + 7x - 10$$

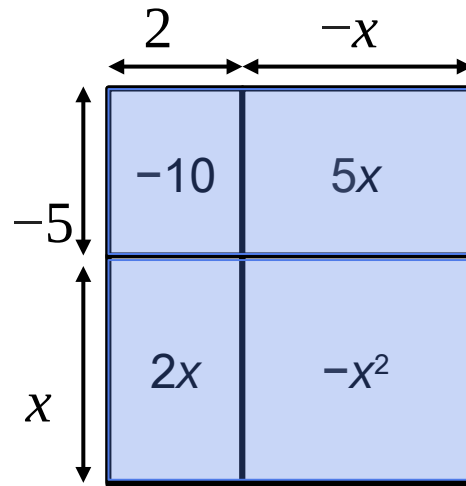


Ardayda qaar waxay helayaan badeecada $(x - 5)(2 - x)$

Waxaan dib u
qorayaa sidan
 $(-5 + x)(2 - x)$



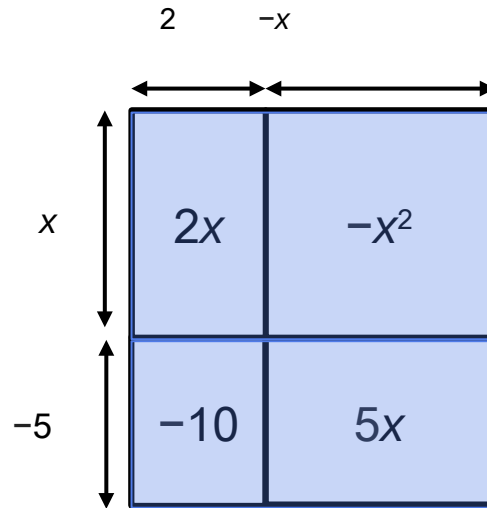
$$\begin{aligned} & (-5 + x)(2 - x) \\ & \equiv -5(2 - x) + x(2 - x) \\ & \equiv -10 + 5x + 2x - x^2 \\ & \equiv -10 + 7x - x^2 \\ & \text{ama } -x^2 + 7x - 10 \end{aligned}$$



Ardayda qaar waxay helayaan badeecada $(x - 5)(2 - x)$

Waxaan helayaa
badeecada anigoon
dib u habayn

$$\begin{aligned}(x - 5)(2 - x) &\equiv x(2 - x) - 5(2 - x) \\ &\equiv 2x - x^2 - 10 + 5x \\ &\equiv -x^2 + 7x - 10\end{aligned}$$



Waxaan helay jawaab
isku mid ah anigoon
dib u habayn

Sida Nuur, uma baahnid inaad dib u habayn tid ka hor isku dhufashada, laakiin waxay kaa caawin kartaa inaad aragto qaababka (patterns) oo aad si fudud u aqoonsato qaladaadka.

Ereyada jawaabta kama dambaysa waxaa loo qori karaa si kasta oo loo doono.

Waa caado in ereyga leh jibka (exponent) ugu weyn uu hor yimaado, kan joogtada ah (constant)na uu dambee.

$$\equiv -x^2 + 7x - 10$$

Wax soo saarka laba binomial (binomials) oo qaabka $(a + b)(a - b)$ ah waxaa loo qori karaa sida

$$a^2 - b^2$$

Tani waa sababta labada wax soo saar ee qayb ahi ay yihiin lammaane eber (zero pair).

Waxaan ugu yeernaa qaabkan kala duwanaanshaha laba jibbaaran (difference of two squares).

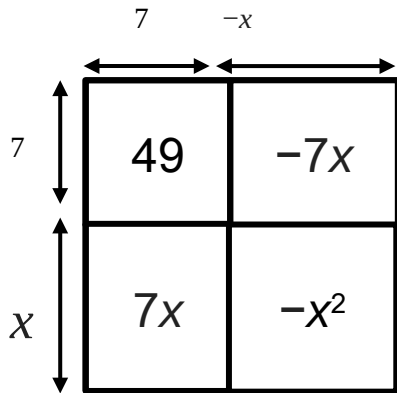
$$(x + 7)(x - 7)$$

Maxaad u malaynaysaa in $(7 + x)(7 - x)$ uu noqon doono qaabka la fidiyay?

$$\equiv x^2 - 7x + 7x - 49$$

$$\equiv x^2 - 49$$

$$\text{ama } x^2 - 72$$



$$\begin{aligned}
 (7 + x)(7 - x) &\equiv 7(7 - x) + x(7 - x) \\
 &\equiv 49 - 7x + 7x - x^2 \\
 &\equiv 49 - x^2
 \end{aligned}$$

Waxaan u malaynayaa in $(x + 7)(7 - x)$ uu yahay kala duwanaanshaha 2 jibbaaran

Cabdi



Waxaan u malaynayaa in $(x - 7)(7 - x)$ uu yahay kala duwanaanshaha 2 jibbaaran



Yacquub

$$(7 + x)(7 - x) \equiv 49 - x^2$$

Yaa aad la raacsan tahay?

Waxaan u malaynayaa in $(7 + x)(x - 7)$ uu yahay kala duwanaanshaha 2 jibbaaran

Nuur



Dib u habaynta si ereyadu isku qaab u noqdaan ayaa caawin doonta.

$$(x + 7)(7 - x) \equiv (x + 7)(-x + 7)$$

$$\equiv (7 + x)(7 - x)$$

$$\equiv 7^2 - x^2$$

Hal xubin (term) oo qaws (bracket) kasta ah waa isku mid, kuwa kalena waa lammaane eber (zero pair).

Waxaan u malaynayaa in $(x + 7)(7 - x)$ uu yahay kala duwanaanshaha 2 jibbaaran

Cabdi



Waxaan u malaynayaa $(x - 7)(7 - x)$ waa kala duwanaanshaha 2 labajibbaaran (difference of 2 squares)



Yacquub

Waxaan u malaynayaa $(7 + x)(x - 7)$ waa kala duwanaanshaha 2 labajibbaaran (difference of 2 squares)

Nuur



Dib u habaynta si xubnuhu (terms) ugu kala horreeyaan isku mid ayaa kaa caawin doonta.

$$(x - 7)(7 - x) \equiv (x - 7)(-x + 7)$$

$$\equiv (-7 + x)(7 - x)$$

Ma aha kala duwanaanshaha laba labajibbaaran (difference of two squares) sababtoo ah labada xubin (terms) waa lammaane eber (zero pairs).

$$(-7 + x)(7 - x) \equiv -49 + 7x + 7x - x^2$$

$$\equiv -x^2 + 14x - 49$$

Waxaan u malaynayaa $(x + 7)(7 - x)$ waa kala duwanaanshaha 2 labajibbaaran (difference of 2 squares)

Cabdi



Waxaan u malaynayaa $(x - 7)(7 - x)$ waa kala duwanaanshaha 2 labajibbaaran (difference of 2 squares)



Yacquub



Waxaan u malaynayaa $(7 + x)(x - 7)$ waa kala duwanaanshaha 2 labajibbaaran (difference of 2 squares)

Nuur



Dib u habaynta si xubnuhu (terms) ugu kala horreeyaan isku mid ayaa kaa caawin doonta.

Ka duwan tan Cabdi laakiin wali waa kala duwanaanshaha laba labajibbaaran (difference of two squares).

$$(7 + x)(x - 7) \equiv (x + 7)(x - 7)$$

$$\equiv x^2 - 7^2$$

Waxaan u malaynayaa $(x + 7)(7 - x)$ waa kala duwanaanshaha 2 labajibbaaran (difference of 2 squares)

Cabdi



Waxaan u malaynayaa $(x - 7)(7 - x)$ waa kala duwanaanshaha 2 labajibbaaran (difference of 2 squares)



Yacquub



Waxaan u malaynayaa $(7 + x)(x - 7)$ waa kala duwanaanshaha 2 labajibbaaran (difference of 2 squares)

Nuur



Isticmaalka binomial (binomials) u dhigma (equivalent)

Mid ka mid ah kuwani waxay u dhigmaa $(x - 4)(4 - x)$?

a

$$(-4 + x)(4 - x) \quad \checkmark$$

b

$$(4 - x)(4 + x)$$

c

$$(x - 4)(x - 4)$$

d

$$(x - 4)(-x + 4) \quad \checkmark$$

Isticmaal binomials u dhigma

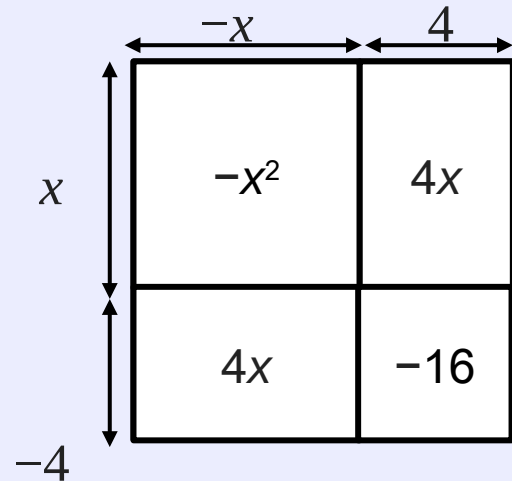
Balaadhi $(x - 4)(4 - x)$, isticmaal qaabka bedka (area model) haddii aad rabto.

$$(x - 4)(4 - x) \equiv (x - 4)(-x + 4)$$

$$\equiv x(-x + 4) - 4(-x + 4)$$

$$\equiv -x^2 + 4x + 4x - 16$$

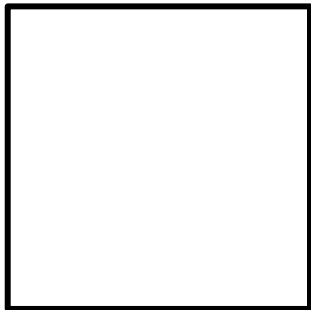
$$\equiv -x^2 + 8x - 16$$



1) Balaadhi oo fududee tibaaxahan.

Waxaad isticmaali kartaa qaababka bedka (area models) si ay kuu caawiyaan.

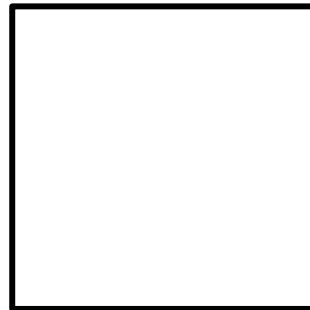
a)



$$(y + 4)(7 - y)$$

$$\equiv \underline{\hspace{2cm}}$$

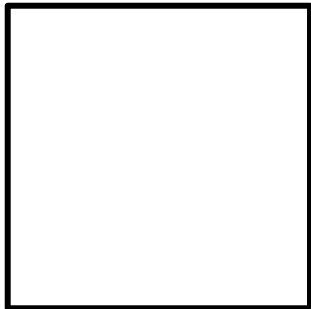
c)



$$(15 - y)(y + 5)$$

$$\equiv \underline{\hspace{2cm}}$$

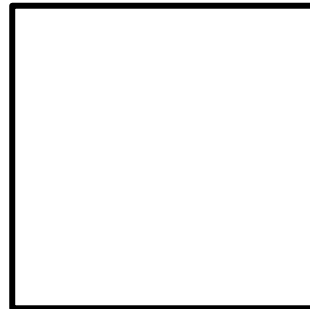
b)



$$(-8 + y)(y - 8)$$

$$\equiv \underline{\hspace{2cm}}$$

d)



$$(x - y)(-y - 10)$$

$$\equiv \underline{\hspace{2cm}}$$

2) Kee ka mid ah tibaaxahan waxaa loo qori karaa farqiga laba labajibbaaran (difference of two squares)?

a) $(x + 9)(9 - x)$

d) $(9 + x)(x - 9)$

g) $(-x + y)(y - x)$

b) $(x - 9)(9 - x)$

e) $(x + y)(y + x)$

h) $(x - y)(y + x)$

c) $(x + 9)(-x - 9)$

f) $(x + y)(-x + y)$

i) $(x - y)(y - x)$

$$x^2 - 81$$

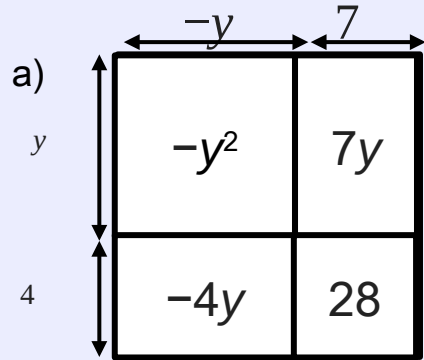
$$81 - x^2$$

$$x^2 - y^2$$

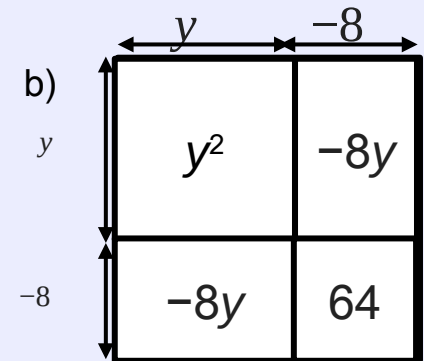
$$y^2 - x^2$$

3) Waa kuwee isku dhufashada laba binomials ee bixiya tibaaxaha sanduuqa ku jira?

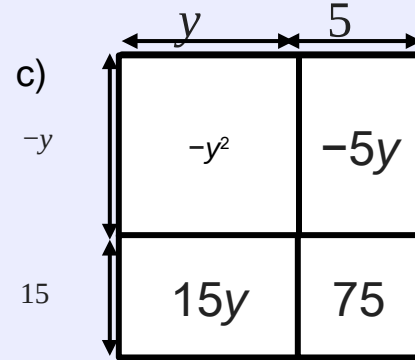
1) Isticmaal qaababka bedka (area models) si aad u balaadhiso oo u fududayso tibaaxahan.



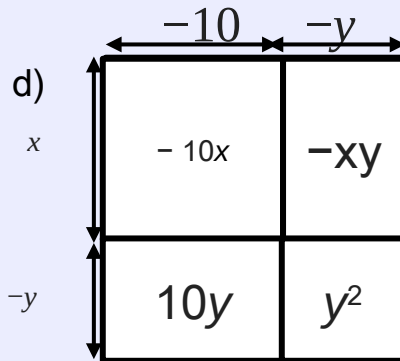
$$\begin{aligned} &(y + 4)(7 - y) \\ &(y + 4)(-y + 7) \\ &\equiv -y^2 + 3y + 28 \end{aligned}$$



$$\begin{aligned} &(-8 + y)(y - 8) \\ &(y - 8)(y - 8) \\ &\equiv y^2 - 16y + 64 \end{aligned}$$



$$\begin{aligned} &(15 - y)(y + 5) \\ &(-y + 15)(y + 5) \\ &\equiv -y^2 + 10y + 75 \end{aligned}$$



$$\begin{aligned} &(x - y)(-y - 10) \\ &(x - y)(-10 - y) \\ &\equiv -10x + 10y - xy + y^2 \\ &\text{Erayada sida ay u kala horreeyaan} \end{aligned}$$

2) Kee ka mid ah tibaaxahan waxaa loo qori karaa farqiga laba labajibbaaran (difference of two squares)?

a)
$$\frac{(x+9)(9-x)}{(9+x)(9-x)}$$

$$(x-9)(9-x)$$

d)
$$(9+x)(x-9)$$

$$= (x+9)(x-9)$$

g)
$$(-x+y)(y-x)$$

b)
$$(x+9)(-x-9)$$

e)
$$(x+y)(y+x)$$

$$\frac{(x-y)(y+x)}{(x-y)(x+y)}$$

h)
$$(x-y)(y-x)$$

c)

f)
$$(x+y)(-x+y)$$

i)

$$\equiv (y+x)(y-x)$$

3) Waa kuwee isku dhufashada laba binomials ee bixiya tibaaxaha sanduuqa ku jira?

a) $(x + 9)(9 - x)$

$$\equiv (9 + x)(9 - x)$$

$$\equiv 81 - x^2$$

d) $(9 + x)(x - 9)$

$$\equiv (x + 9)(x - 9)$$

$$\equiv x^2 - 81$$

h) $(x - y)(y + x)$

$$\equiv (x - y)(x + y)$$

$$\equiv x^2 - y^2$$

f) $(-x + y)(x + y)$

$$\equiv (y - x)(y + x)$$

$$\equiv y^2 - x^2$$

$$x^2 - 81$$

$$81 - x^2$$

$$x^2 - y^2$$

$$y^2 - x^2$$

Isku dhufashada binomials ee ka sii adag



Isticmaal binomials u dhigma



Tirooyinka (Coefficients) aan ahayn 1

Suad waxay helaysay taranta (product) laba binomial oo leh tibaaxyo (expressions) kala duwan.



Waxaan ku arkay qaab (pattern) qaabka la ballaariyay (expanded form). Isku-dhafka (coefficient) x waa wadarta labada joogto (constants) ee binomials-ka, erayga joogtada ahna waa taranta labadaas joogto.

E.g. $(x + 5)(x + 4)$

$$\equiv x^2 + (5 + 4)x + 4 \times 5$$

$$\equiv x^2 + 9x + 20$$

Suad

$$(x + 4)(x + 2)$$

$$\equiv x^2 + 2x + 4x + 8$$

$$\equiv x^2 + 6x + 8$$

$$(x + 8)(x - 1)$$

$$\equiv x^2 - x + 8x - 8$$

$$\equiv x^2 + 7x - 8$$

Ma raacsan tahay?

Tijaabi tusaalooyin.

Indha-indhaynta (observation) Suad waxay u muuqataa inay u shaqeyso tusaalooyin badan.

Isku-dhufashada labada eray oo joogto ah (constant terms) waxay keentaa mid ka mid ah badeecadaha qayb ahaan (partial products).

Haddii laba ka mid ah badeecadaha qayb ahaan (partial products) ay yihiin erayo isku mid ah (like terms), waa la fududeyn karaa iyadoo la isku darayo isku-dhafyada (coefficients).

Ma ka fikirteen tusaale kasta oo aan tani ku shaqeyn?

Tusaale ahaan, tusaale kasta oo binomials-ku leeyihiin doorsoomayaal (variables) kala duwan.

$(x + 4)(y + 5)$ ama $(x + 4)(x + y)$

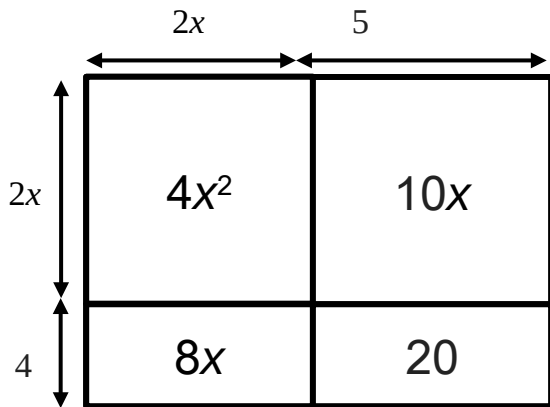
Tusaale kasta oo mid ama in ka badan oo ka mid ah doorsoomayaasha (variables) uu yahay taban (negative).

$(x + 4)(5 - x)$ ama $(4 - x)(5 - x)$

Doorsoomayaasha (variables) ee binomials-ka waxay yeelan karaan isku-dhafyo (coefficients) ka weyn 1

Tusaale ahaan $(2x + 4)(2x + 5)$

Waxaan heli karnaa qaabka la ballaariyay (expanded form) iyadoo la isticmaalayo qaabka bedka (area model).



$$\begin{aligned} 2x \times 2x &\equiv 2 \times 2 \times x \times x \\ &\equiv 4x^2 \end{aligned}$$

$$2x \times 5 \equiv 10x$$

$$4 \times 2x \equiv 8x$$

$$4 \times 5 \equiv 20$$

$$(2x + 4)(2x + 5) \equiv 4x^2 + 18x + 20$$

$$(2x + 4)(2x + 5) \equiv 4x^2 + 18x + 20$$

Oh, kan ma raaco qaanuunkayga (rule) sababtoo ah $4 + 5 = 9$ ma aha 18.

Suad



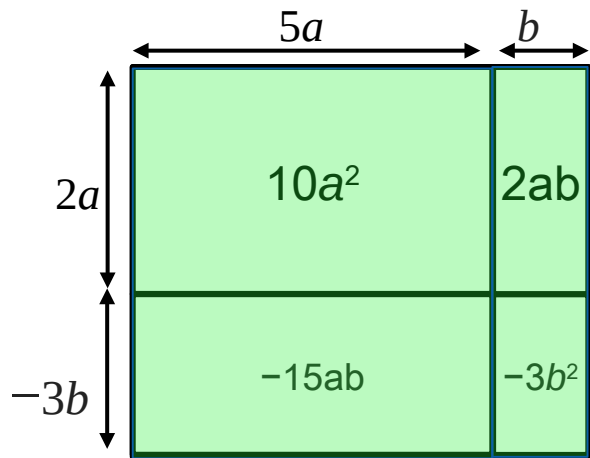
Aqoonsiga qaababka (patterns) aad buu u faa'iido u leh xisaabta (mathematics) sababtoo ah wuxuu noo oggolaanayaa inaan fahanno qaab-dhismeedka (structure) tirooyinka iyo xisaabaadka (calculations).

Indheerkii Suad wuxuu naga caawinayaa inaan aragno qaabka alaabta binomial ee qaabka $(x + a)(x + b)$ halkaas oo a iyo b ay yihiin constants.

Laakiin tani kuma shaqeyso alaabta kale ee binomial. Qaabka aagga (area model) ayaa lagu talinayaa si loo hubiyo in aan waxyaabo qayb ah laga seegin ama si khaldan loo xisaabin.

Waa maxay qaabka la fidiyay ee $(5a + b)(2a - 3b)$?

Habka leh qaabka aagga iyo kan aan lahayn ayaa la muujiyay dhinac-ka-dhinac.



$$\equiv 10a^2 - 13ab - 3b^2$$

$$(5a + b)(2a - 3b) \\ \equiv 5a(2a - 3b) + b(2a - 3b)$$

$$\equiv 10a^2 - 15ab + 2ab - 3b^2$$

$$\equiv 10a^2 - 13ab - 3b^2$$

Coefficients aan ahayn 1

Fidiy oo fududee:

$$(5x - 9)(3x - 2)$$

	$5x$	-9	
$3x$	$15x^2$	$-27x$	
-2	$-10x$	18	

$$\equiv 5x(3x - 2) - 9(3x - 2)$$

$$\equiv 15x^2 - 10x - 27x + 18$$

$$\equiv 15x^2 - 37x + 18$$

Fidiy oo fududee:

$$(4x - 8)(2x - 3)$$

	$4x$	-8	
$2x$	$8x^2$	$-16x$	
-3	$-12x$	24	

$$\equiv 4x(2x - 3) - 8(2x - 3)$$

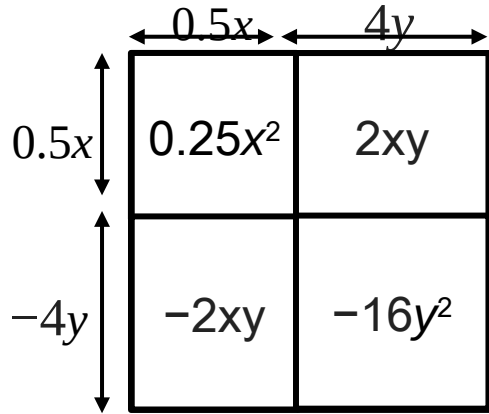
$$\equiv 8x^2 - 12x - 16x + 24$$

$$\equiv 8x^2 - 28x + 24$$

Coefficients aan ahayn 1

Waxaan isticmaali karnaa isla habka si saxda ah si aan ugu dhufano laba binomial oo kasta, si kasta oo ay adag yihiin.

Tusaale ahaan $(0.5x - 4y)(0.5x + 4y)$



$$\equiv 0.5x(0.5x + 4y) - 4y(0.5x + 4y)$$

$$\equiv 0.25x^2 + 2xy - 2xy - 16y^2$$

$$\equiv 0.25x^2 - 16y^2$$

Maxaad ka ogaatay jawaabteenna?

Maxaad ka dareentaa jawaabteena?

$$(0.5x - 4y)(0.5x + 4y) \equiv 0.25x^2 - 16y^2$$

Kani waa farqiga laba labajibbaaran (difference of two squares).

Labada binomial mid kasta wuxuu leeyahay eray $0.5x$

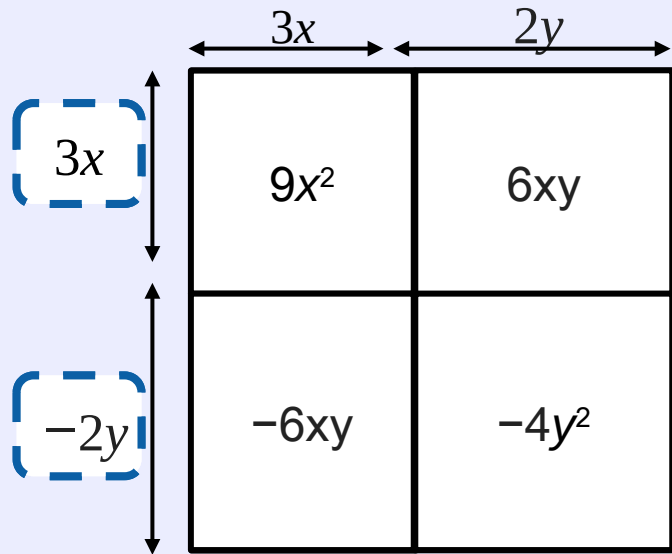
Erayada kale $-4y$ iyo $4y$ waa lammaane eber (zero pair)

Waxaan xisaabin karnay jawaabteena anagoo adeegsanayna indha-indhayntan:

$$\begin{aligned}(0.5x - 4y)(0.5x + 4y) &\equiv (0.5x)^2 - (4y)^2 \\ &\equiv 0.25x^2 - 16y^2\end{aligned}$$

Tirooyinka (Coefficients) aan ahayn 1

Buuxi qaabka bedka (area model) iyo tibaaxaha fudud ee sheyga $(3x - 2y)(3x + 2y)$



$$(3x - 2y)(3x + 2y) \\ \equiv \underline{9x^2 - 4y^2}$$

1) Balaari oo fududee shey kasta oo laba binomial ah.

a) $(2x - 6)(x + 3)$

c) $(3x - 6)(2x + 6)$

e) $(3x - 6)(3x - 6)$

$(3x - 6)(x + 3)$

$(3x - 6)(2x - 6)$

$(3x - 6)(3x + 6)$

b)

d)

f)

2) Maxaad ka dareentaa jawaabtaada a) iyo f)? Ma sharxi kartaa sababta ay tani u dhacdo.

3) Balaari oo fududee shey kasta oo laba binomial ah.

a) $(2x + 3y)(4x + 5y)$
 $(2x + 5y)(4x + 3y)$

c) $(3y - 4x)(2x - 5y)$
 $(3x - 4y)(5y - 2x)$

e) $(-5y + 2x)(3y - 4x)$
 $(5y + 2x)(-3y - 4x)$

b)

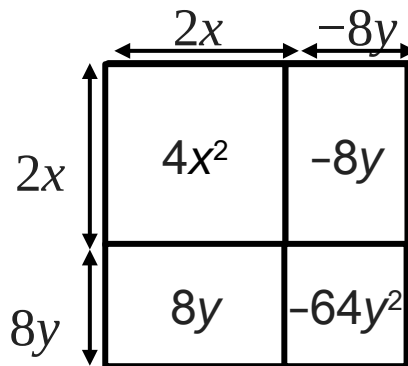
d)

f)

4) Maxaad ka dareentaa jawaabtaada c) iyo e)? Ma sharxi kartaa sababta ay tani u dhacdo.

5) Isra waxay rabtaa inay hesho qaabka balaaran ee sheyga $(2x - 8y)^2$

a) Soo hel oo sax qalad kasta oo ay samaysay.



The diagram shows a large square divided into four smaller squares. The top-left square is labeled $4x^2$, the top-right square is labeled $-8y$, the bottom-left square is labeled $8y$, and the bottom-right square is labeled $-64y^2$. The top side of the large square is divided into two segments labeled $2x$ and $-8y$. The left side is divided into two segments labeled $2x$ and $8y$. To the right of the diagram, the expression $\equiv 4x^2 - 64y^2$ is written.



6) Ma qori kartaa laba binomial oo sheygoodu noqon doono $4x^2 - 64y^2$

Ma jirtaa hab ka badan hal?

1) Fidiy oo fududee shey kasta oo laba binomial ah.

a) $(2x - 6)(x + 3)$
 $\equiv 2x^2 + 6x - 6x - 18$
 $\equiv 2x^2 - 18$

$$(3x - 6)(x + 3)$$
$$\equiv 3x^2 + 9x - 6x - 18$$
$$\equiv 3x^2 + 3x - 18$$

c) $(3x - 6)(2x + 6)$
 $\equiv 6x^2 + 18x - 12x - 36$
 $\equiv 6x^2 + 6x - 36$

$$(3x - 6)(2x - 6)$$
$$\equiv 6x^2 - 18x - 12x + 36$$
$$\equiv 6x^2 - 30x + 36$$

e) $(3x - 6)(3x - 6)$
 $\equiv 9x^2 - 18x - 18x + 36$
 $\equiv 9x^2 - 36x + 36$

$$(3x - 6)(3x + 6)$$
$$\equiv 9x^2 + 18x - 18x - 36$$
$$\equiv 9x^2 - 36$$

b)

d)

f)

2) Maxaad ka ogaataa jawaabtaada a) iyo f)? Ma sharxi kartaa sababta ay taasi u dhacdo.

Laba ka mid ah alaabooyinka qayb ahi waa zero pairs, marka tibaaxa ugu dambeeya wuxuu leeyahay oo kaliya laba xubnood.

f) si cad waa farqiga laba labajibbaaran (difference of two squares) maxaa yeelay labada binomial waxay leeyihiin xubnaha $3x$ iyo xubnaha kale -6 iyo 6 oo ah zero pair.

Binomial-ka koowaad ee a) $(2x - 6)$ dhab ahaan waxaa loo qori karaa $2(x - 3)$, marka sheygu wuxuu la mid yahay $2(x - 3)(x + 3)$, kaas oo ah farqiga laba labajibbaaran oo dhammaan lagu dhuftey 2. $2(x^2 - 32) \equiv 2(x^2 - 9) \equiv 2x^2 - 18$

3) Fidiy oo fududee shey kasta oo laba binomial ah.

a) $(2x + 3y)(4x + 5y)$
 $\equiv 8x^2 + 10xy + 12xy + 15y^2$
 $\equiv 8x^2 + 22xy + 15y^2$

$(2x + 5y)(4x + 3y)$
 $\equiv 8x^2 + 6xy + 20xy + 15y^2$
 $\equiv 8x^2 + 26xy + 15y^2$

c) $(3y - 4x)(2x - 5y)$
 $\equiv 6xy - 15y^2 - 8x^2 + 20xy$
 $\equiv -8x^2 + 26xy - 15y^2$

$(3x - 4y)(5y - 2x)$
 $\equiv 15xy - 6x^2 - 20y^2 + 8xy$
 $\equiv -6x^2 + 23xy - 20y^2$

e) $(-5y + 2x)(3y - 4x)$
 $\equiv -15y^2 + 20xy + 6xy - 8x^2$
 $\equiv -8x^2 + 26xy - 15y^2$

$(5y + 2x)(-3y - 4x)$
 $\equiv -15y^2 - 20xy - 6xy - 8x^2$
 $\equiv -8x^2 - 26xy - 15y^2$

b)

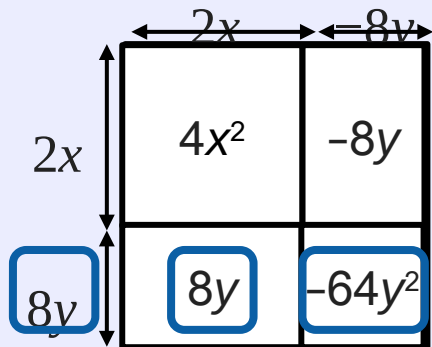
d)

f)

4) Maxaad ka ogaataa jawaabtaada c) iyo e)? Ma sharxi kartaa sababta ay taasi u dhacdo. Way isku mid yihiin maxaa yeelay $(2x - 5y) \equiv (-5y + 2x)$

5) Isra waxay rabtaa inay hesho qaabka fidsan ee sheyga $(2x - 8y)^2$

a) Soo hel oo sax qalad kasta oo ay samaysay.



$$\equiv 4x^2 - 64y^2$$

Binomial-ka ku saabsan dhererka laba jibaaranka (square) waa inuu lahaadaa erey 8 taban. Sheyada qayb ahaaneed ee safka hoose waa inay ahaadaan $-8y$ iyo $64y^2$



6) Ma qori kartaa laba binomial oo sheygoodu noqon doono $4x^2 - 64y^2$?

Ma jirtaa hab ka badan hal? $(2x - 8y)(2x + 8y)$ ama $(-2x - 8y)(-2x + 8y)$ iyo dib-u-habayn kasta oo ereyada ku jira binomials.

Soo koobid Sheyada binomial ee ka sii adag

Sheyga labada binomial, ereyada ku jira binomials waxay noqon karaan amarada kala duwan.

Dib-u-habaynta ereyada si ay isku amar ugu noqdaan waxay noqon kartaa mid faa'iido leh.

Way fududahay in la arko sheyada ah kala duwanaanshaha laba laba jibaaran (difference of two squares) haddii ereyada isku amar ku yihiin labada binomial.

Waxaan isticmaali karnaa moodooyinka bedka (area models) si aan ugu dhufano laba binomial oo kasta, oo ay ku jiraan kuwa leh doorsoomayaal badan (multiple variables) iyo tirooyin (coefficients) aan ahayn 1.