

First Quiz 5·1 (on expanding)

Today's Learning Goal(s):

By the end of the class, I will be able to:

- a) factor trinomials of the form $x^2 + bx + c$

No Handout for the next few days; see website.

Any questions from last 2 day's homework?

pp. 234-235 #3, 4, 5*, 6

*answer for 5c is wrong

Enrichment: pp. 234-235 7d, 12, 15

pp. 240-241 #3ab, 4ab, 5dg, 6a, 7ab,

8ab, 9ab, 11ab

Enrichment: p. 241 #15b, 17b

Today's practice: pp. 240-241 #3cf, 4cf, 5cf, 6b, 7cef, 8d, 9d, 11d

SWYK 5.2 Tomorrow

(on factoring)

P.240 6a)

$$\begin{array}{c} l = x+10 \\ w = x+8 \\ \boxed{A = x^2 + 18x + 80} \end{array}$$

$$\begin{aligned} A &= x^2 + 18x + 80 \\ &= (x+8)(x+10) \\ Q &= x+10 & W &= x+8 \\ &= 15+10 & &= 15+8 \\ &= 25 & &= 23 \end{aligned}$$

8a) $x^2 + bx + 12$

if $b = 13$

then

$(x+12)(x+1)$

$b = 7$

$(x+3)(x+4)$

b) $x^2 - bx + 4$
if $b = 5$ } $x^2 - 5x + 4$

$(x-1)(x-4)$

$\underbrace{\quad}_{\because b=4} (x-2)(x-2)$

P.241 #11

a) $a^2 + 11ab + 24b^2$

$\hookrightarrow a^2 + 11a + 24$

$= (a+8)(a+3)$

$= (a+8b)(a+3b)$

$a^{26} + 11a^{13} + 24$

$= (a^{13} + 8)(a^{13} + 3)$

b) $b^2 - 11km + 18m^2$

$\hookrightarrow b^2 - 11k + 18$
 $= (k \quad)(k \quad)$

$= (k-9m)(k-2m)$

MPM 2DI 5.4 Factor Quadratic Expressions of the Form $x^2 + bx + c$ (Day 2)

Ex.1 Factor completely.

Date: Nov. 14/16

a) $x^2 + 12x + 20$

b) $x^2 + 7x - 18$

c) $x^2 - 10x - 24$

$$=(x+2)(x+10) \quad =(x+9)(x-2) \quad =(x-12)(x+2)$$

$$\begin{array}{r} 1 \quad 20 \\ 2 \quad 10 \\ \hline 2 \end{array}$$

$\begin{array}{r} -1+18 \\ -2+9 \\ \hline -3+6 \end{array}$

$\begin{array}{r} 1-24 \\ 2-12 \\ 3-8 \\ 4-6 = -2 \end{array}$

d) $x^2 - 19x + 60$

e) $-x^2 + 7x - 12$

f) $4x^2 - 12x - 40$

$$=(x-4)(x-15) \quad = -1(x^2 - 7x + 12) \quad = 4(x^2 - 3x - 10)$$

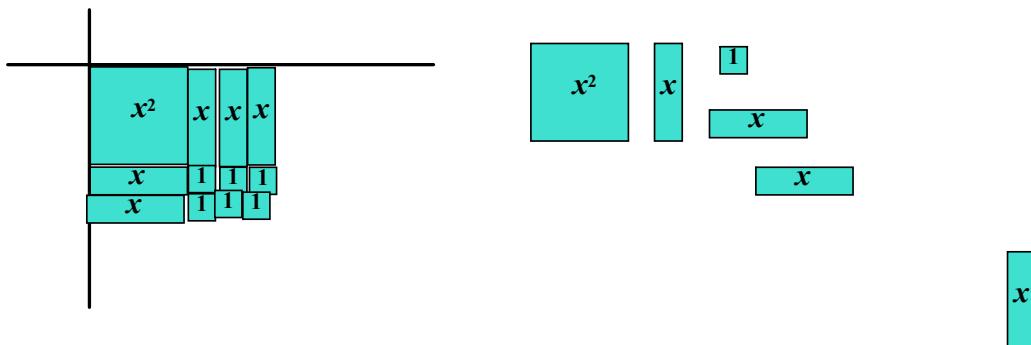
$$= -(x-4)(x-3) \quad = 4(x-5)(x+2)$$

$$\begin{array}{r} 1 \quad 60 \\ 2 \quad 30 \\ 3 \quad 20 \\ 4 \quad 15 \\ 5 \quad 12 \\ 6 \quad 10 \\ 7 \quad 8 \\ 8 \quad 5 \end{array}$$

Ex.2 Let's try factoring using algebra tiles. (see Investigate A p.236)

a) $x^2 + 6x + 5$ First, create a rectangle.

You need to use 5 of the 1's, and 6 of the x bars,
but some could be *horizontal*, and some could be *vertical*.



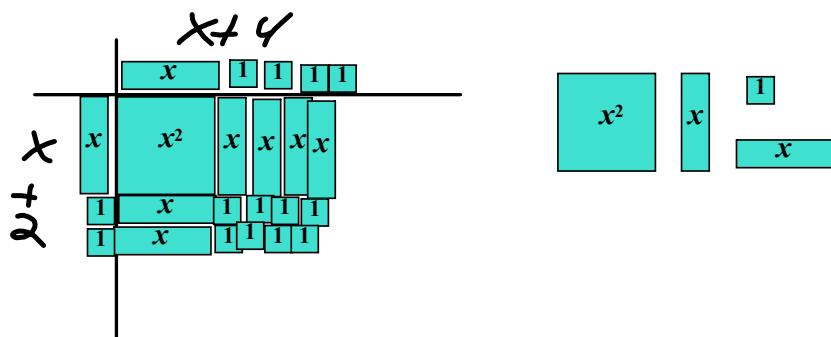
$x^2 + 6x + 5$

$$\begin{array}{r}
 x \quad + \quad 5 \\
 \hline
 x \quad | \quad x^2 \quad | \quad x \quad x \quad x \quad x \quad x \quad x \\
 + \quad | \quad x \quad | \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \\
 1 \quad | \quad x \quad | \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1
 \end{array}$$

$x^2 + 6x + 5$
 $= (x+1)(x+5)$



- b) $x^2 + 6x + 8$ First, create a rectangle.
 You need to use 8 of the 1's, and 6 of the x bars,
 but some could be *horizontal*, and some could be *vertical*.



The diagram shows a rectangle divided into smaller rectangles. The top row is labeled $x+4$. The left column is labeled x and $+2$. The grid contains x^2 , $6x$, and 8 units. To the right, the terms $x^2 + 6x + 8$ and its factored form $(x+4)(x+2)$ are shown.

Today's practice:

pp. 240-241 #3cf, 4cf, 5cf, 6b, 7cef, 8d, 9d, 11d

SWYK 5.2 Tomorrow
(on factoring)