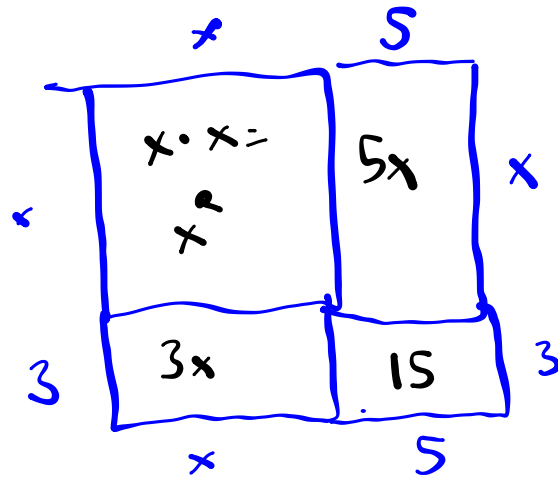


Announcement:

There will be a quiz over sections 9.1-9.4 on
Wednesday, May 2

Homework Review - 9.2

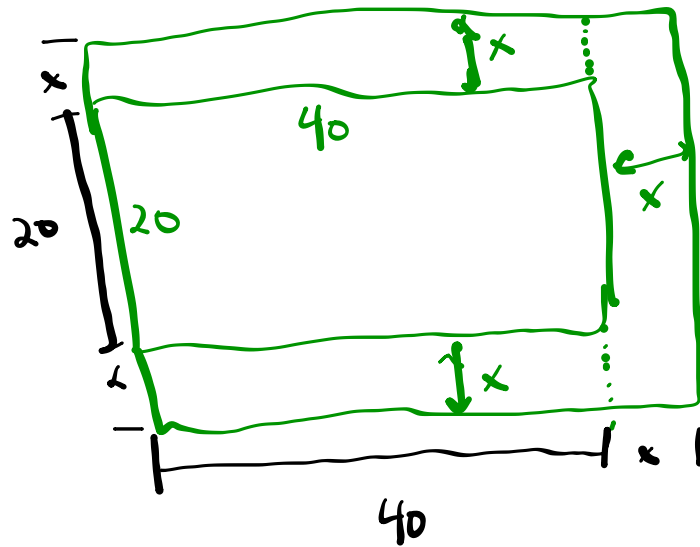


$$A = L \times w$$

$$x^2 + 5x + 3x + 15$$

$$x^2 + 8x + 15$$

(50)



$$2(5^2) + 100(5) + 800$$

$$50 + 500 + 800$$

$$1350 \text{ ft}^2$$

wawwma jawwmmrann

$$A = l \times w$$

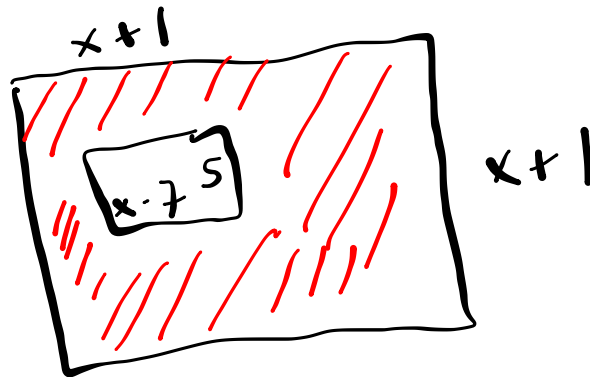
$$A = l \cdot (x + 40)$$

$$A = (2x + 20)(x + 40)$$

$$= 2x^2 + 80x + 20x + 800$$

$$= 2x^2 + 100x + 800$$

(42)

 $A = l \cdot w$

$$A = (x+1)(x+1) = x^2 + x + x + 1$$

$$= x^2 + 2x + 1$$

$$A = (x-7) \cdot 5 = 5x - 35$$

$$+ \quad -5x + 35$$

$$x^2 - 3x + 36$$

Multiplying polynomials horizontally: $(h^2 + 6h - 7)(3h - 4)$
 → this is the technique we've used

Multiplying polynomials vertically:

$$\begin{array}{r}
 h^2 + 6h - 7 \\
 3h - 4 \\
 \hline
 -4h^2 - 24h + 28 \\
 3h^3 + 18h^2 - 21h \\
 \hline
 3h^3 + 14h^2 - 45h + 28
 \end{array}$$

Use the same technique as when you
 multiply numbers with more than one
 digit:

$$\begin{array}{r}
 428 \\
 \times 34 \\
 \hline
 1712 \\
 1284 \\
 \hline
 14552
 \end{array}$$

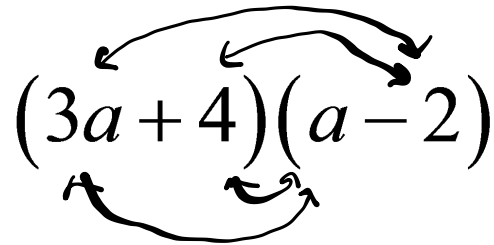
Multiply polynomials using a table:

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

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

$$3x^3 - 9x^2 - 10x - 8$$

FOIL method for multiplying two binomials:


$$(3a + 4)(a - 2)$$

$$(a+b)(x+y)$$

First ... $3a^2$

Outer ... $-6a$

Inner ... $4a$

Last... -8

$$3a^2 - 2a - 8$$

Find the product.

1. $-8y^3(2y^4 - 5y^2 + 3)$
(vertical)

2. $(b + 3)(3b^2 - 2b + 1)$
(table)

3. $(6w - 3)(4 - 3w)$
(FOIL)

Square of a binomial pattern:

$$(a + b)^2 = a^2 + 2ab + b^2$$

Basic pattern:

$$(a + b)^2 = (a + b)(a + b)$$

Why:

$$a^2 + ab + ab + b^2$$

Examples:

$$a^2 + 2ab + b^2$$

$$(x + 4)^2 = x^2 + 8x + 16$$

$$(2x + 3)^2 = 4x^2 + 12x + 9$$

Sum and Difference Pattern (binomials only):

$$(a+b)(a-b) = a^2 - b^2$$

Basic pattern:

$$\begin{array}{l} a^2 - ab + ab - b^2 \\ a^2 - b^2 \end{array}$$

Why:

Examples:

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

$$(3x+7)(3x-7) = 9x^2 - 49$$

$$(11x-12)(11x+12) = 121x^2 - 144$$

(Works with numbers too...)

$$205 \times 195$$

$$(200+5)(200-5)$$

$$40000 - 25 = 39975$$

$$103 \times 103$$

$$(100+3)^2 = 10000 + 600 + 9 \\ = 10609$$

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

Find the product of the square of the binomial.

1. $(x - 9)^2$ $(a+b)^2 =$
 $a^2 + 2ab + b^2$
 $x^2 - 18x + 81$

2. $(m + 11)^2$

$$m^2 + 22m + 121$$

3. $(5s + 2)^2$

$$(5s)^2 = 5s \cdot 5s = 25s^2$$

$$25s^2 + 20s + 4$$

$$2 \cdot 5s \cdot 2 = 20s$$

Find the product of the sum and difference.

10. $(a - 9)(a + 9)$

$$a^2 - 81$$

11. $(z - 20)(z + 20)$

$$z^2 - 400$$

12. $(5r + 1)(5r - 1)$

$$25r^2 - 1$$

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

Pea Plants In pea plants, the gene S is for spherical seed shape, and the gene s is for wrinkled seed shape. Any gene combination with an S results in a spherical seed shape. Suppose two pea plants have the same gene combination Ss .

- a. Make a Punnett square that shows the possible gene combinations of an offspring pea plant and the resulting seed shape.
- b. Write a polynomial that models the possible gene combinations of an offspring pea plant.
- c. What percent of the possible gene combinations of the offspring results in a wrinkled seed shape?

Homework:

p. 572, 4-40 even

p. 574, 1-9 odd

