Book and yesterday's classwork on your desk.

Read in your novels.

Announcements

- Polynomials test Thursday
- Need people to take the Exponents Test 2 still… please schedule with me!
- Lots of absences the past few weeks - be sure to make a plan with me!
- Hidden Figures Chapter 9-12 due Monday
    - All are posted. I will continue to post more so you can work ahead if you would like

Hidden Figures Due Dates

- 9-12 due March 4
- 13-16 due March 11
- 17-20 due March 18
- 21-23 due March 25 → Book completed!

When we have finished the novel, we will watch the movie!

Unit Map - Polynomials

~~Thursday - Intro to Polynomials (definitions and degrees) & Adding/Subtracting Polynomials~~
~~Friday - Multiplying and Factoring~~
~~Monday - Multiplying Binomials~~
Tuesday - Multiplying Special Cases
Wednesday - Polynomials Review
Thursday - Polynomials Test

Classwork Check

“Special Cases” of Polynomials

2/26/2019

Expanding Monomials

Expand (do not simplify) each of the following:

a) $(2xy)^2$

b) $(5xyz)^3$

c) $(4x)^4$

The Square of a Binomial: Do NOT distribute an exponent to a binomial!

Simplify the product.

$$
\begin{aligned}
(a + b)^2 &= (a + b)(a + b) \\
&= a^2 + ab + ba + b^2 && \text{Multiply the binomials.} \\
&= a^2 + 2ab + b^2 && \text{Simplify.}
\end{aligned}
$$

take note

Key Concept The Square of a Binomial

Words The square of a binomial is the square of the first term plus twice the product of the two terms plus the square of the last term.

Algebra

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

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

Examples

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

$(x - 3)^2 = x^2 - 6x + 9$

Expand, then FOIL or Box the following.

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

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

Expand, and then simplify the following:

a) $(n - 7)^2 =$

b) $(x + 3)^2 =$

c) $(2x + 9)^2$

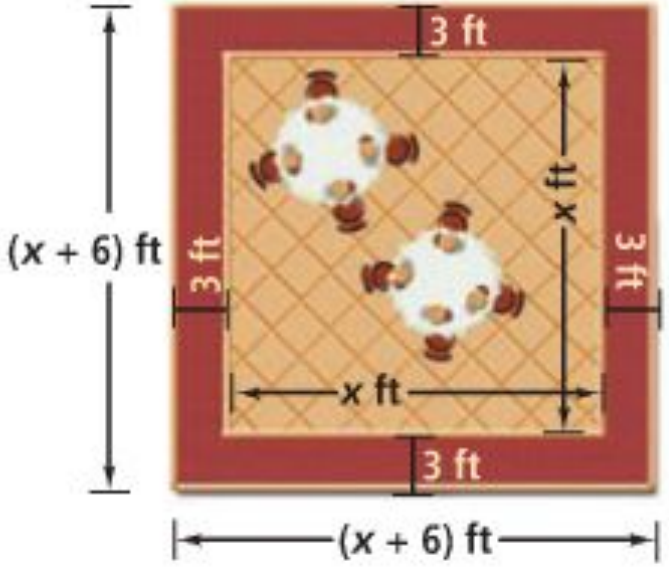
d) $(3x + 4y)^2$

Got it? What is the simpler form of each product?

a) $(2x + 9)^2$

b) $(n - 4m)^2$

Exterior Design **A square outdoor patio is surrounded by a brick walkway as shown. What is the area of the walkway?**



Step 1 Find the total area of the patio and walkway.

$$(x + 6)^2 = x^2 + 2(x)(6) + 6^2 \quad \text{Square the binomial.}$$

$$= x^2 + 12x + 36 \quad \text{Simplify.}$$

Step 2 Find the area of the patio.

The area of the patio is $x \cdot x$, or x^2.

Step 3 Find the area of the walkway.

$$\text{Area of walkway} = \text{Total area} - \text{Area of patio}$$

$$= (x^2 + 12x + 36) - x^2 \quad \text{Substitute.}$$

$$= (x^2 - x^2) + 12x + 36 \quad \text{Group like terms.}$$

$$= 12x + 36 \quad \text{Simplify.}$$

The area of the walkway is $(12x + 36)$ ft^2.

Finding the Product of a Sum and Difference

What is a simpler form of $(x^3 + 8)(x^3 - 8)$

Think	Write
Write the original product.	$(x^3 + 8)(x^3 - 8)$
Identify which terms correspond to *a* and *b* in the rule for the product of a sum and difference.	$a = x^3$; $b = 8$
Substitute for *a* and *b* in the rule.	$(x^3 + 8)(x^3 - 8) = (x^3)^2 - (8)^2$
Simplify.	$= x^6 - 64$

Practice:

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

b. $(6 + m^2)(6 - m^2)$

c. $(3c - 4)(3c + 4)$

Expanding a Binomial in Vertex Form

What is a simpler form of each product?

a) $2(x - 6)^2$

b) $3(x + 2)^2$

c) $4(x - 1)^2$

What is a simpler form of each product?

a) $3(x + 1)^2 + 1$

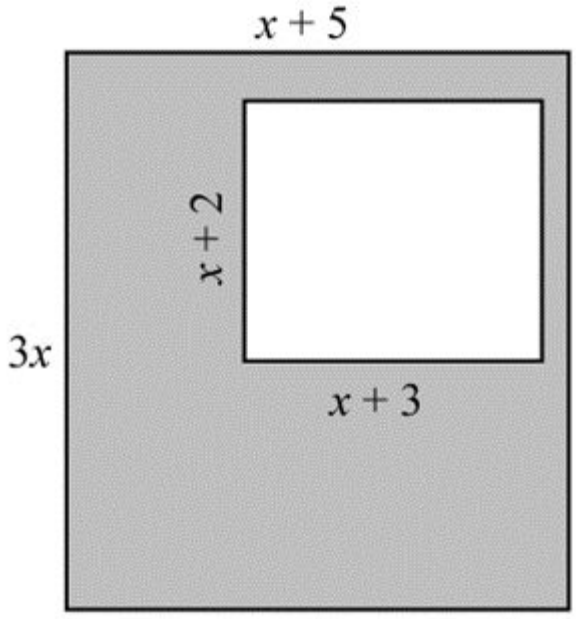
b) $2(x - 4)^2 - 5$

c) $-4(x - 2)^2 + 6$

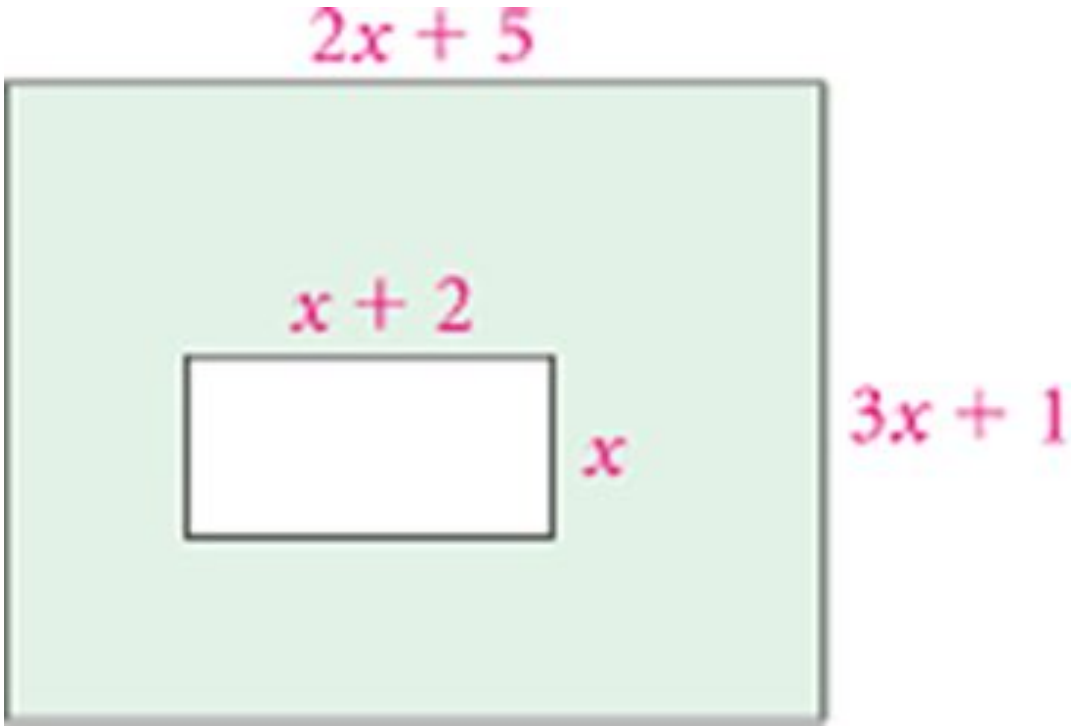
Finding the Area of Shaded Regions

$$\text{Area}_{\text{shaded}} = \text{Area}_{\text{Big}} - \text{Area}_{\text{Little}}$$

Find the area of the shaded region —



Find the area of the shaded region



Test Information

- 30 questions
- Multiple choice
- On your computer
- We will have a review day tomorrow

Homework

Textbook page 495 #9 - 19 odd, 25-29 odd, 37-43 odd