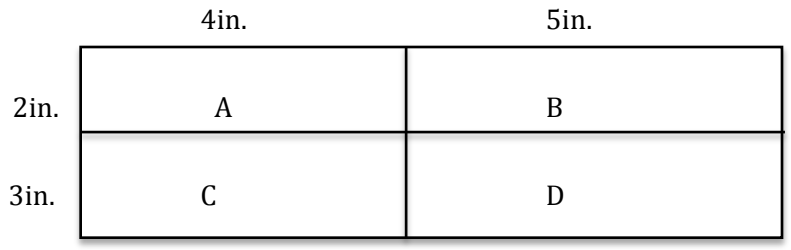
Algebra 1 Names: _____
TVUSD **Date:**_____ **Period:** _____

Polynomial Farm

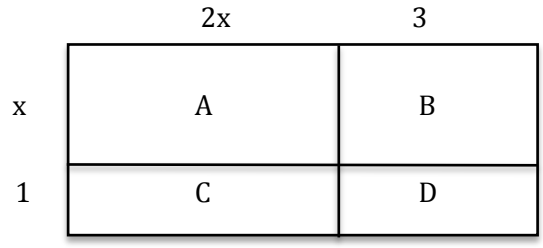
Part I (Intro & Investigate)

1. Find the perimeter and area of each small rectangle (A, B, C and D). Find the perimeter and area of the large rectangle composed of A, B, C and D.



	Perimeter	Area
A		
B		
C		
D		
Large Rectangle		

2. Find the perimeter and area of each small rectangle (A, B, C and D). Find the perimeter and area of the large rectangle composed of A, B, C and D. All measures given are in inches.



	Perimeter	Area
A		
B		
C		
D		
Large Rectangle		

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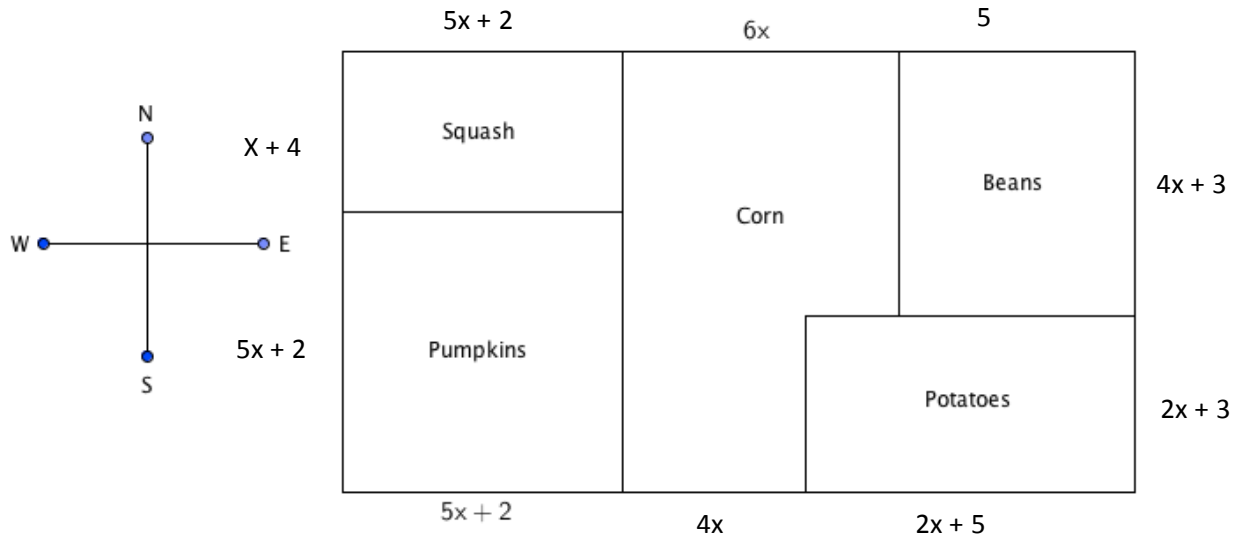
Polynomial Farm

Part II (Apply)

Directions: Farmer Bob is planting a field of crops this spring. He wants to plant squash, pumpkins, corn, beans, and potatoes. His plan for the field layout in feet is shown in the figure below. Use the figure and your knowledge of polynomials, perimeter, and area to solve the following:



3. Write a simplified expression that represents the length of the south fence line.

4. Find the perimeter of the pumpkin field.

5. Find the area of the squash field.

6. Find the perimeter and area of each section of the Field.

	Perimeter	Area
Squash		
Pumpkin		
Beans		
Potatoes		
Corn		
Entire Field		

Extension: a) In this field scenario, is x a variable or an unknown quantity? _____

b) If it is variable, explain. If it is an unknown quantity, use equivalent lengths to find x.

Polynomial Farm

Part III (Practice & Generalize)

7. Multiply and simplify

a) $(x + 5)(x + 2)$

b) $(3x + 1)(2 x + 7)$

c) $(x + 9)(x – 6)$

d) $(x – 10)(x – 4)$

e) $(x + 6)(x – 6)$

f) $(x + 6)^2$

g) $(3x + 5)(3x – 5)$

h) $(3x + 5)^2$

8. $(a + b)(c + d) =$ $(a + b)(a – b) =$ $(a + b)^2=$

Names: _____
Date:_____ **Period:** _____

Polynomial Farm

Part IV (Extend & Generalize)

9. Multiply and simplify

a) $(x + 5)(x^2 + 2)$

b) $(x^3 + 4)(x^2 + 5x)$

c) $(x + 4)(x^2 + 5x + 8)$

d) $(x + 2)(x^2 - 3x + 5)$

e) $3(x - 7) + (x + 6)(x + 4)$

f) $2x(x + 4) + (x + 5)(3x - 2)$

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

h) $(x^4 - 2)(x^2 - 4x + 1)$

i) $(x^2 - 6x + 8)(-5 - 9x)$

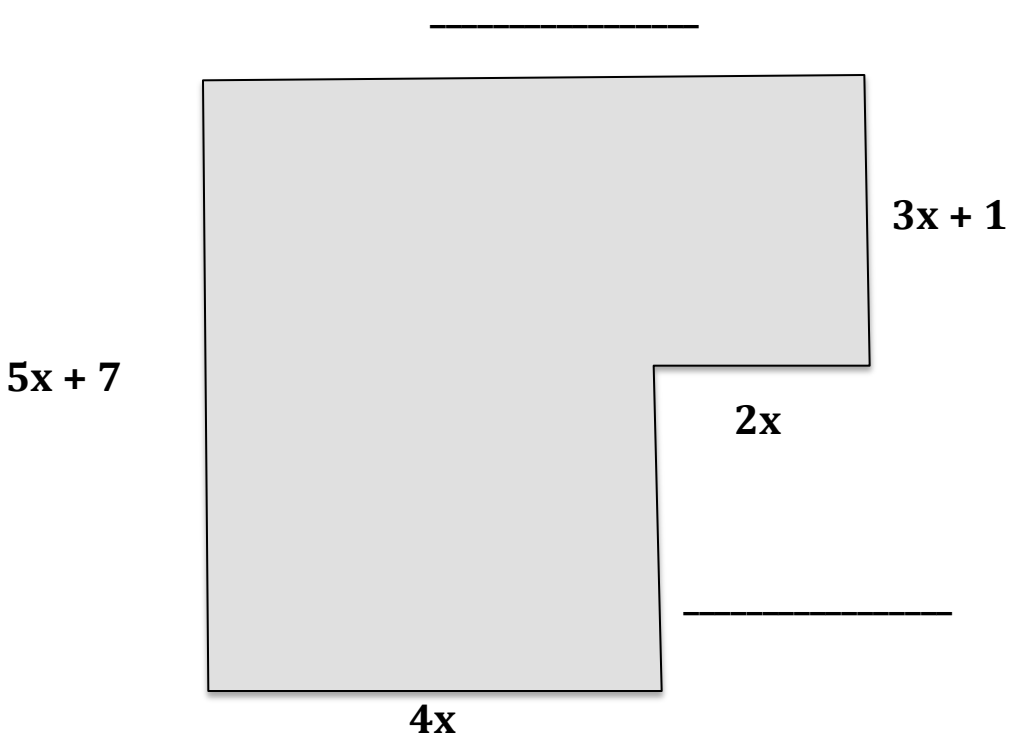
j) $\frac{1}{2}(4x + 8) + (x + 3)(x - 7)$

TVUSD
Algebra 1

Name _____
Per _____

Polynomial Farm Assessment

Four of the six lengths of following rectangular figure are given as polynomials.



1) Find the missing two dimensions. (Answer in the blanks shown in the diagram.)

2) a) Write a function , P(x), representing the perimeter of the figure.

P(x) = _____

b) Determine the perimeter for a value of x = 10. P(10) = _____

3) a) Write a function , A(x), representing the area of the figure.

A(x) = _____

b) Determine the area for a value of x = 10. A(10) = _____