6. Algebra 1: Polynomial Operations



Study Guide

Part I: Multiple Choice:(Justify your answer to earn credit)

1. 1. Find the sum between $3x^2 - 4x - 3$ and $2x^2 + 5x - 1$ and state the degree.

3x2-4x-3

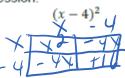
5x2+X-4

3. Which expression is equivalent to

 $\frac{4m^{12m^3-4m^2+8m?}}{3m^2-m+2}$

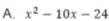
 $4M\left(3M^2-M+2\right)$

5. What is the equivalent polynomial to the following factored expression:



X2-8x+16

7. Which of the following polynomials is prime (cannot be factored)? SHOW YUN SOWHON



B.
$$2x^2 - 14x + 24$$

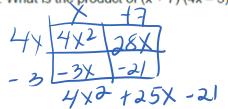
C.
$$5x^2 - 14x + 8$$

D. $3x^2 - 9x + 10$

2. The difference between 2x² + 4x and -7x² -4x.

9x2 +8X

4. What is the product of (x + 7) (4x - 3).



A construction company is planning to pour concrete for a driveway. The length of the driveway is 10 feet longer than its width w. Write an expression for the area of the driveway.

 $A = W(w+10) = W^2 + 10W$

Xantell is carpeting a rectangular room that has an area of x² – 25ft². If the width of the room is x – 5 ft, what is the length of the room?





9. Factor the polynomial $(9x^3 - 18x^2) + (5x - 10)$ by grouping.

grouping. $(9x^{2}18x^{2}) + (5x-10)$ $9x^{2}(x-2) + 5(x-2)$ $(9x^{2}+5)(x-2)$ 10. Factor the following polynomial $x^3 + 8x^2 + 15x$

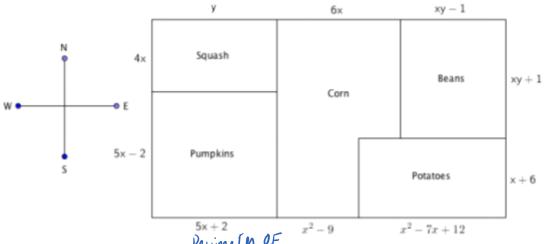
completely. $\times (\times^2 + 8 \times + 15)$

X(X+5)(X+3)

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Part II: Performance Task

Directions: Farmer Bob is planting a garden 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.



Pennul in 0F expression that represents the north side of the field.

P=y+6x+xy-1

Write a polynomial expression that represents the perimeter of the squash field. Simplify the polynomial expression that represents the perimeter of the squash field.

omial

Psquash =
$$2L+2W$$

 $P = 2y+2(4x)$
 $P = 2y+2(4x)$

Write a polynomial expression that represents the area of the pumpkin field. Simplify the polynomial
expression that represents the area of the pumpkin field.

expression that represents the area of the pumpkin lield:

$$5x + 12$$
 $5x + 10x$

A pumpkin = $25x^2 + 10x$

4. Write and simplify the polynomial expression that represents the area of the squash field if x = 2 and y = 5. What unit would the area of Bob's squash field have?

A SQUASH =
$$LW$$

 $A = y \cdot 44$
 $A = 5 \cdot 4 \cdot 2$

A = 5.4.2 = 40 SGUARE UNITS

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