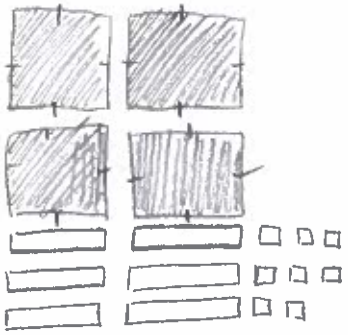
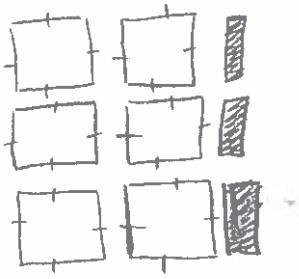
Math 9: Polynomials 1 Final Exam Review

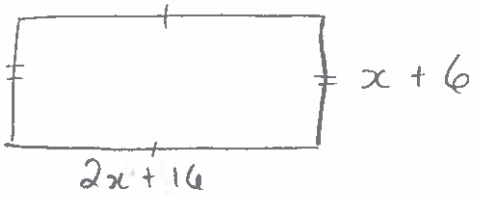
- **Introduction to Polynomials**
  a. Classify each polynomial; state its degree and determine its coefficient(s) and constant(s).
  $-6x^2 - 4xy + 8$ $4x^2 - 6y^2$ $10x^2 - \frac{1}{x}$
  b. What expression is represented by each set of algebra tiles.





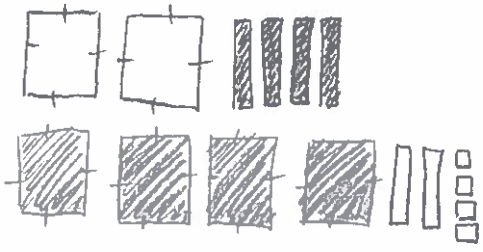
  c. Model each polynomial with tiles.
  $x^2 + 4x + 2$ $-2x^2 - 6x$
  d. Guitar lessons cost $40 for adults and $30 for students. The cost of lessons is given by 30a + 25s. What do "a" and "s" represent. How much does it cost if two adults and two students take lessons? Write a new expression if the cost changes so adult lessons are $4 more and student lessons are $2 more.

- **Equivalent Expressions: Collecting Like Terms**
  a. Identify the like terms in the group
  8a 20 -28.4a 36b -4
  b. Collect like terms.
  $12x - 8x^2 + 4x - 8x^2$ $12j - 20 + 8j^2 - 4 + 8j - 12j^2$ $m - 10 + 14 = 8m$
  c. Write an expression for the perimeter.



  d. To rent a skating rink there is a fixed cost of $400 plus $20 per hour. Write an expression for the cost of the skating rink. How much does it cost to rent it for 3 hours?

- **Adding and Subtracting Polynomials**
  a. What addition statement does the diagram model?



b. What is the opposite to the expression?

$20d + 12$

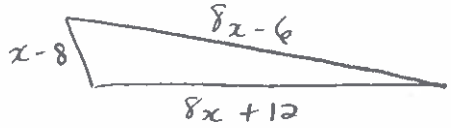
c. Add.

$(4x - 6) + (10x - 2)$ $(m + 14) + (m^2 + 14)$

d. Subtract.

$(10 - 12w) - (-4 - 6w)$ $(-12r^2 - 20r - 8) - (4r^2 - 8r + 32)$

e. A triangle is shown below.



What does $(x - 8) + (8x - 6) + (8x + 12)$ represent? Simplify the expression. If $x = 4$ what is the value of the perimeter?

f. The cost to print "n" copies of a book is $10n + 525$. The cost to ship the book is $n + 50$. What is the simplest expression for the total cost? What is the total cost to ship and print 900 books? What does $(10n + 525) - (n + 50)$ represent in simplest form?

Questions to Review

Pg. 178 # 5 – 10, 17a & b, 19, 21
179 # 11 – 17, 20a, 23 – 26
187 # 5 – 12
188# 16 – 22
196# 5 – 15
197 # 16 – 25

Polynomials Assignment 1

Polynomials I Test