Chapter 5
In-Class Review

Terminology/definitions - Matching
Chapter 5 Practice Test: page 202 - 203, #1 - 15
Additional selected problems

Terminology/Definitions – Matching

1. Algebra **F**
2. Binomial **D**
3. Degree of a polynomial **G**
4. Degree of a term **B**
5. Like terms **A**
6. Monomial **C**

7. Polynomial **H**
8. Term **I**

9. Trinomial **E**

A. Terms that differ only by their numerical coefficient
B. The sum of the exponents on the variables in a term
C. 1 term
D. 2 terms
E. 3 terms
F. A branch of mathematics that uses symbols to represent unknown numbers of quantities.
G. The degree of the highest degree term in a polynomial
H. An algebraic expression made up of terms connected by the operations of addition or subtraction.
I. An expression formed from the product of numbers and/or variables.

1. Which polynomial is of degree 1?

A $3 - 7x$ B $xy - 1$

C $5x - 3xy$ D $x^2 - 5x + 2$

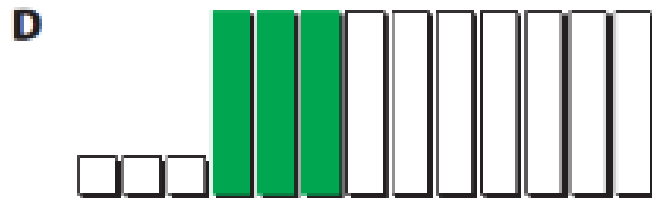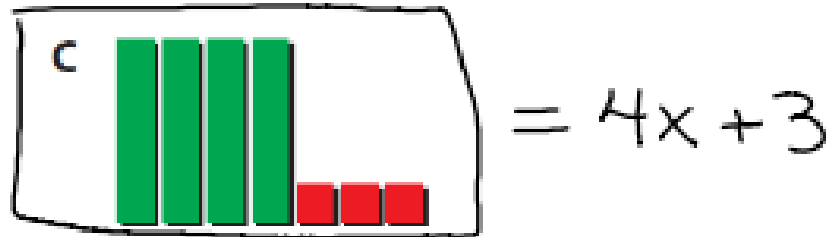2. Which expression does not have zero as a constant term?

A $-5x$ B $k + 8$

C $y^2 - 2y$ D $ab + b - c$

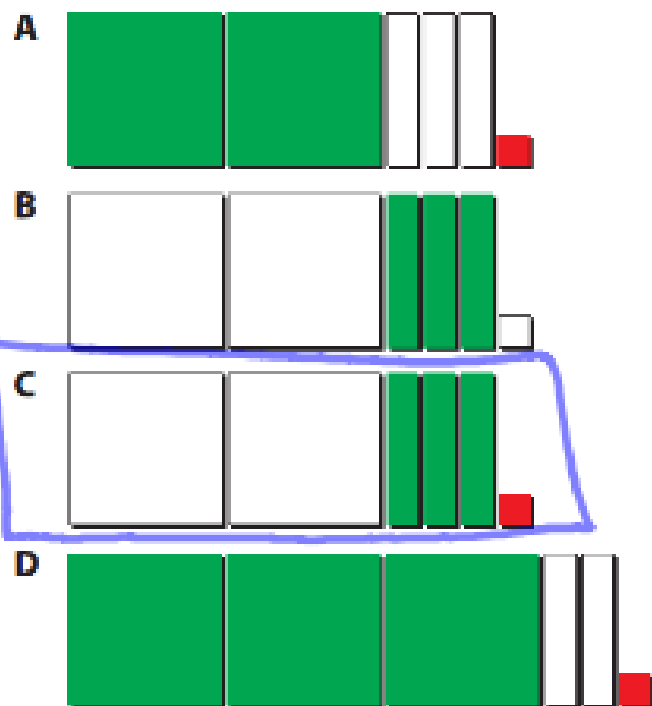**3.** Which of the following is not equivalent
to $3x - 5 + 2 - 7x$? $= -4x - 3$

A $-4x - 3$

B $3x - 7x - 5 + 2$

C

D

$= 4x + 3$

4. Which set of diagrams represents
$3x - 2x^2 + 1$?

A

B

C

D

5. Which expression is a trinomial?

   A abc^3

   B $3mn$

   C $ef + g^2$

   D $-1 - x + c$

6. Which expression is the opposite of $-2k^2 + 3k - 1$?

   A $-1 - 3k + 2k^2$

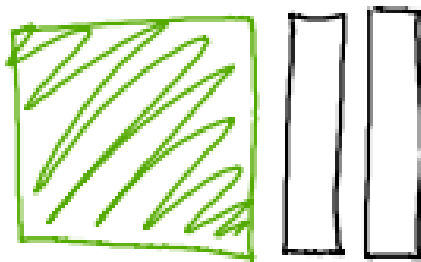   **B** $1 - 3k + 2k^2$

   C $1 - 3k - 2k^2$

   D $-1 - 3k - 2k^2$

7. When you combine like terms, the
expression $(2t^2) - 5 - 8t^2 - 4$ becomes
_____ .

$-6t^2 - 9$

8. In the monomial $-q^2$, the value of the
coefficient is ■ .

-1

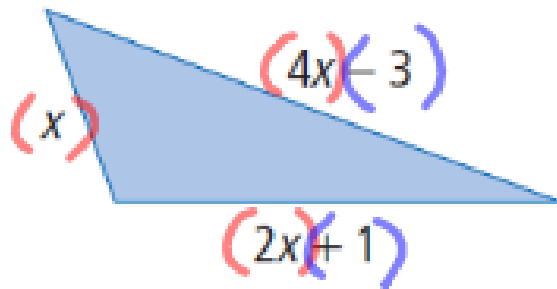**9.** Draw a diagram to represent $x^2 - 2x$.

10. Create a single polynomial with
- two terms
- two variables
- degree 2
- a constant term

$$xy + 3$$

11. What is an expression, in simplest form, for the perimeter of the triangle?

$(4x - 3)$

(x)

$(2x + 1)$

$7x - 2$

12. Write an expression to represent what the diagrams show. Then, simplify.
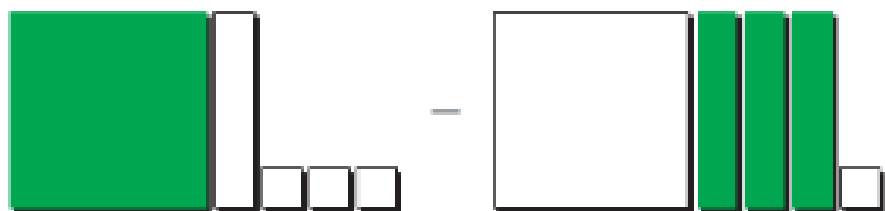
$$(x^2 - x - 3) \underline{-(x^2 + 3x - 1)}$$
$$+ (x^2 - 3x + 1)$$
$$= 2x^2 - 4x - 2$$

13. Simplify. Use models for at least one of the expressions. Show your work.

a) $(2x^2 - 8x + 1) + (9x^2 + 4x - 1)$

b) $(4 - 6w) - (3 - 8w)$

a) $2x^2 - 8x + 1$
$+\ \ 9x^2 + 4x - 1$
$$\boxed{11x^2 - 4x}$$

13. Simplify. Use models for at least one of the expressions. Show your work.

a) $(2x^2 - 8x + 1) + (9x^2 + 4x - 1)$

b) $(4 - 6w) \; \cancel{- (3 - 8w)}$

$+(-3 + 8w)$

b) $(4 + 6w)(-3 + 8w)$

$= 2w + 1$

14. The number of peanuts two squirrels bury can be represented by $4n + 7$ and $5n - 1$, respectively.

a) Write and simplify an expression for the number of peanuts both squirrels bury.

$$4n + 5n + 7 - 1 = 9n + 6$$

b) What could the expression $(5n - 1) - (4n + 7)$ represent?

How many more peanuts one squirrel buried compared to the other squirrel.

c) What is a simpler expression for $(5n - 1) \cancel{- (4n + 7)}$ $+ (-4n - 7)$?

$$= n - 8$$

15. The cost for a birthday party at Big Fun Bowling is \$100 for up to ten children, plus \$5 per pair of bowling shoes. To rent the party room, the cost is \$20, plus \$4 per child for pizza.

a) What is an expression for the cost of bowling for up to ten children?

$n = \#$ of children

$100 + 5n$

b) What is an expression for the cost of pizza in the party room for up to ten children?

$20 + 4n$

c) What is a simplified expression for the total cost of up to ten children going bowling and having pizza in the party room?

$9n + 120$

d) Estimate, then calculate, the cost of nine children going bowling and having pizza in the party room.

$n = 9$

Use your expression from part c)

$$9n + 120$$

$$9(9) + 120$$

$$= 81 + 120 = \$201$$

For each of the following polynomials, simplify and write in descending degree (if necessary) and then classify and state the degree of the polynomial:

a) $(4x) - 5 + 6x - x^2 + 1$

$-x^2 + 10x - 4$
degree 2 trinomial

c) $9a^2 + 3a - 7 + 4a$

$9a^2 + 7a - 7$
degree 2 trinomial

e) $-b^2$

degree 2 monomial
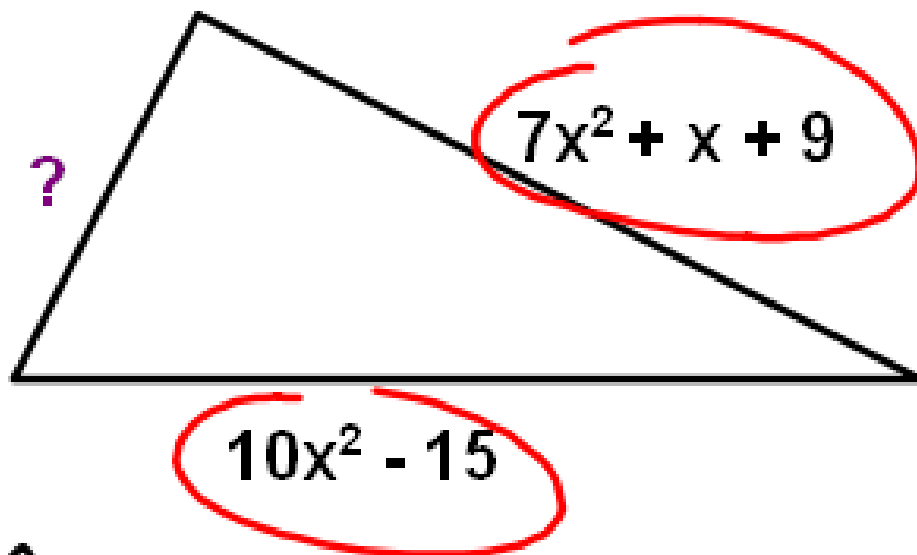
b) $-7ab + 4$

degree 2 binomial

d) $6 - 5n + 7m$

$7m - 5n + 6$
degree 1 trinomial

f) 15

degree 0 monomial

If the perimeter of this triangle is $18x^2 - 2x + 3$, find the expression that represents the **unknown side**:

?

$7x^2 + x + 9$

$10x^2 - 15$

$17x^2 + x - 6$

$$+ \frac{\begin{array}{c} 18x^2 - 2x + 3 \\ -17x^2 - x + 6 \end{array}}{x^2 - 3x + 9}$$

Ch. 5 Review

pg. 200-201
#1 - 28