Chapter 5 Practice Test

Chapter 5 Practice Test Page 202 Question 1

The polynomial that is of degree 1 is $3 - 7x$. The term with the highest degree is $7x$. Its degree is 1. So, the degree of the polynomial is 1. The correct choice is A.

Chapter 5 Practice Test Page 202 Question 2

The expression, $k + 8$, has 8 as its constant. All the other terms have zero as their constant term. The correct choice is B.

Chapter 5 Practice Test Page 202 Question 3

Simplify $3x - 5 + 2 - 7x$.

$$\begin{aligned} & 3x - 5 + 2 - 7x \\ = \ & 3x - 7x - 5 + 2 \\ = \ & -4x - 3 \end{aligned}$$

This is the same expression as choice A.

Simplify the expression in B.

$$\begin{aligned} & 3x - 7x - 5 + 2 \\ = \ & -4x - 3 \end{aligned}$$

So, the expression in B is equivalent to the original expression.

Choice C shows a model of $4x + 3$. This is not equivalent to the original expression.

After removing the zero pairs, D shows a model for $-4x - 3$, which is equivalent to the original expression.

The correct choice is C.

Chapter 5 Practice Test Page 202 Question 4

A shows a model of $2x^2 - 3x + 1$.
B shows a model of $-2x^2 + 3x - 1$.
C shows a model of $-2x^2 + 3x + 1$.
D shows a model of $3x^2 - 2x + 1$.
The correct choice is C.

Chapter 5 Practice Test Page 202 Question 5

The expression in A is a monomial.
The expression in B is a monomial.
The expression in C is a binomial.
The expression in D is a trinomial.

The correct choice is D.

Chapter 5 Practice Test Page 202 Question 6

The opposite of the expression $-2k^2 + 3k - 1$ is $2k^2 - 3k + 1$. The correct choice is B.

Chapter 5 Practice Test Page 202 Question 7

$2t^2 - 5 - 8t^2 - 4$
$= 2t^2 - 8t^2 - 5 - 4$ Rearrange the terms, grouping the like terms together.
$= -6t^2 - 9$ Subtract the like terms.
When simplified, the expression $2t^2 - 5 - 8t^2 - 4$ becomes $6t^2 - 9$.

Chapter 5 Practice Test Page 202 Question 8

In the monomial $-q^2$, the coefficient is -1.

Chapter 5 Practice Test Page 202 Question 9

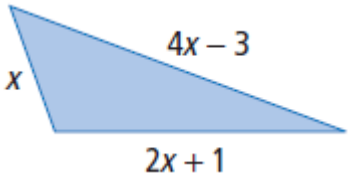
To represent $x^2 - 2x$, use one positive x^2-tile and two negative x-tiles.

Chapter 5 Practice Test Page 202 Question 10

Example: The polynomial $6ab - 11$ has two terms $6ab$ and -11. It has two variables a and b. The term with the highest degree is $6ab$, and its degree is 2. So, the degree of the polynomial is 2. It contains the constant term, -11.

Chapter 5 Practice Test Page 202 Question 11

To find the perimeter of the triangle, find the sum of the side lengths.



$x + (4x - 3) + (2x + 1)$
$= x + 4x + 2x - 3 + 1$
$= 7x - 2$
A simplified expression for the perimeter of this triangle is $7x - 2$.

Chapter 5 Practice Test Page 203 Question 12

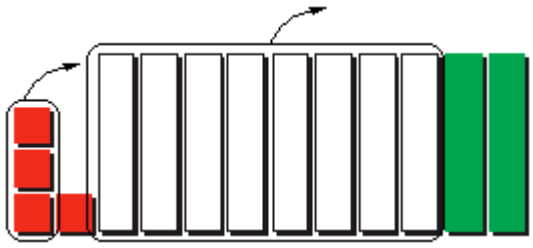
The first diagram represents $(x^2 - x - 3)$. The second diagram represents $(-x^2 + 3x - 1)$.
$(x^2 - x - 3) - (-x^2 + 3x - 1)$
$= (x^2 - x - 3) + (x^2 - 3x + 1)$
$= x^2 + x^2 - x - 3x - 3 + 1$
$= 2x^2 - 4x - 2$

Chapter 5 Practice Test Page 203 Question 13

a) $(2x^2 - 8x + 1) + (9x^2 + 4x + -1)$
$= 2x^2 + 9x^2 - 8x + 4x + 1 - 1$
$= 11x^2 - 4x$

b) Use algebra tiles to model $(4 - 6w) - (3 - 8w)$.

Three 1-tiles can be removed. There are only six negative w-tiles. Add two zero pairs, then remove 8 negative w-tiles.



$1 + 2w$ remains.

So, $(4 - 6w) - (3 - 8w) = 1 + 2w$.

Chapter 5 Practice Test Page 203 Question 14

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

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

A simplified expression for the number of peanuts both squirrels bury is $9n + 6$.

b) The expression represents the difference in the number of peanuts each squirrel buried.

c) $(5n - 1) - (4n + 7)$
$= (5n - 1) + (-4n - 7)$
$= 5n - 4n - 1 - 7$
$= n - 8.$

A simplified expression is $n - 8$.

Chapter 5 Practice Test Page 203 Question 15

a) An expression for the cost of bowling for up to ten children is $100 + 5n$, where n represents the number of children.

b) An expression for the cost of pizza in the party room for up to ten children is $20 + 4n$, where n represents the number of children.

c) $(100 + 5n) + (20 + 4n)$
$= 100 + 20 + 5n + 4n$
$= 120 + 9n$

A simplified expression for the total cost is $120 + 9n$.

d) Example: An estimate is \$200 for the cost of 9 children going bowling and having pizza in the party room.

To find the actual cost, replace n with 9 in the expression $120 + 9n$.

$120 + 9n$
$= 120 + 9(9)$
$= 120 + 81$
$= 201$

The cost of nine children going bowling and having pizza in the party room is \$201.