Last Name: _____ Date: _____

First Name: _____ Grade 9

Term 1 Practice Test 5

Algebra

1) State if the following polynomial expressions are monomials, binomials or trinomials.

a)	$2x^2y^3$ Answer:	b)	$7x^9 - 8x^2 + 6$ Answer:
c)	y^0 Answer:	d)	$2x^5 - 4x^4 + 6x^5$ Answer:

2) TRUE or FALSE. All of the following are irrational numbers. $\sqrt{2}, \sqrt{64}\sqrt{168}$

Answer: _____

3) Determine the degree of the following polynomial expressions.

a)	$(2x^2)^4$ Answer: degree = _____	b)	$5x^4 + 7$ Answer: degree = _____
c)	$-6x^5(8x^3)$ Answer: degree = _____	d)	$-6 - 2x^8 - 7x^3$ Answer: degree = _____

4) Write each of the following as a power of 10.

a) 100 000 = _____ b) 0.000 0001 = _____

5) Write the following in exponential form and in standard form.

a)	$\sqrt[2]{169}$ = _____ = _____	b)	$\sqrt[3]{125}$ = _____ = _____

6) Simplify the following expressions (only positive exponents and calculated coefficients).

a) $(3x^{-1}y^4)^2 =$

b) $(4a^6b^{-4}c)^3 =$

7) Simplify the following algebraic expressions. If the equation is already in simplified form rewrite the statement in the space provided.

a)	$-x^2 - (3x^2 - 7)$ Answer:_____	b)	$5x^{14}y^9 + 7x^9y^{14}$ Answer:_____
c)	$xy \cdot xy \cdot xy \cdot xy$ Answer:_____	d)	$-8x^6y^7z^5 + 16x^{11}y^{10}$ Answer:_____
e)	$-21x^5y^6 + 12x^3y^6$ Answer:_____	f)	$\left(\frac{-25x^5}{15x}\right)^{-1}$ Answer:_____

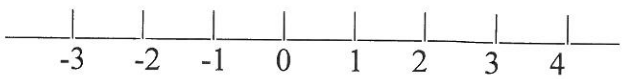
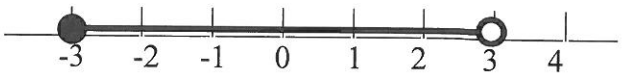
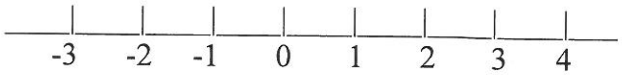
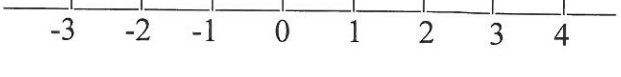
8) Determine if the following statements are **true** or **false**. The entire word must be written.

a. $\mathbb{N} \subseteq \mathbb{Q}$	b. $-2156 \in \mathbb{Q}$
c. $\mathbb{Q} \subseteq \mathbb{Q}'$	d. $\sqrt[3]{343} \in \mathbb{Q}$

9) Solve for the unknown variables (no decimals).

a) $-5x - 2 = -4x - 89$	b) $-17x - 5x + 29 = 16 - 14x$
Answer:_____	Answer:_____

10) Complete the following chart.

(a)	$x \geq -2$		
(b)			
(c)			$]-\infty, 4[$
(d)	$-1 \leq x \leq 2$		

11) Consider the polynomials:

$$A = 5x^2 + 4x + 2$$
$$B = -3x^2 + 5$$
$$C = x - 4$$

Find.

a)	A + B – C Answer:_____
b)	3A -2B Answer:_____
c)	(A)(C) Answer:_____

12) Determine the area of the shaded region.

Remember to be clear and organized when showing all your work.