Last Name: _____ Date: _____
First Name: _____ Grade 9
Term 2 Practice Test 3

Scientific Notation/Measurements

1) Write the following in decimal notation.

a) $5.638 \times 10^{8} =$ _____	b) $0.00258 \times 10^{12} =$ _____
c) $6.24 \times 10^{-3} =$ _____	d) $9.7569 \times 10^{-5} =$ _____

2) Simplify. Write each answer in scientific notation. Round to three decimal places if needed.

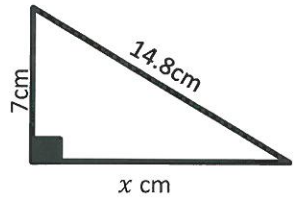
a) $(8.9 \times 10^{3})(6.85 \times 10^{-1})$	b) $(2.57 \times 10^{13})(4.35 \times 10^{-2})$
c) $(3.56 \times 10^{-12})(2 \times 10^{-8})$	d) $(13.2 \times 10^{5})(8.5 \times 10^{4})$
e) $\frac{(4.84 \times 10^{9})}{(2.2 \times 10^{5})}$	f) $\frac{(6.86 \times 10^{7})}{(2.2 \times 10^{-2})}$
g) $\frac{(12.4 \times 10^{-3})}{(2.1 \times 10^{-7})}$	h) $\frac{(77 \times 10^{-8})}{(22 \times 10^{-5})}$

3) Convert the following.

a)	$3km =$ _____ cm
b)	$5.258m =$ _____ hm
c)	$45685cm^2 =$ _____ dm^2
d)	$345\ 500\ 000mm^2 =$ _____ m^2
e)	$400\ 000dam^3 =$ _____ hm^3
f)	$0.123dam^3 =$ _____ hm^3
g)	$125\ 000cm^3 =$ _____ L
h)	$99cL =$ _____ mm^3

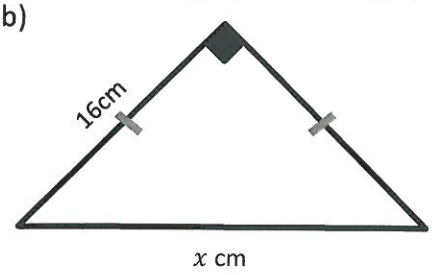
4) Determine the length of the missing side. Images are not drawn to scale.

a)



Answer: _____

b)



Answer: _____

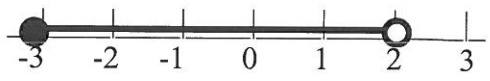
5) Determine if the following statements are **true** or **false**. The entire word must be written.

a. $\mathbb{Z} \subseteq \mathbb{N}$Type equation here.	b. $-7.5 \in \mathbb{Z}$

6) TRUE or FALSE. All of the following are irrational numbers. $\sqrt{36}, \sqrt[2]{625}, \sqrt[3]{72}$

Answer: _____

7) Complete the following chart.

Inequality	Number line	Bracket Notation
		

8) Write the following as a power of 10.

a) 1 000 000 000 = _____ b) 0.000 000 000 001 = _____

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

$4x^2y^3 + 6x^2y^{-3} + 8$ Answer: _____

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

$\sqrt[3]{64}$ = _____ = _____

11) Simplify the following expressions so they only have positive exponents.

a) $(5x^{-8}y^3)^{-2} =$	b) $\frac{448x^{-1}y^{-9}}{2x^{-5}} =$

12) Determine the degree of the following polynomial expressions.

$(2x^3)^7 + 5x^2 + x^{-9}$ Answer: degree = _____

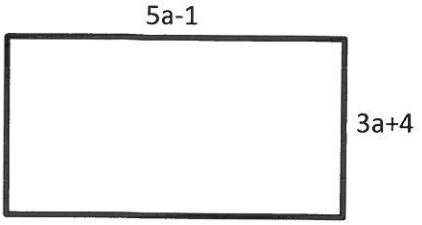
13) Solve for the unknown variables (no decimals).

a) $4(-3x) - 2 = 5(-8x) - 112$	b) $3(-14x^2) + 80 = -70 - 15x^2$
Answer: _____	Answer: _____

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

a)	$(2x - 4)(6x + 3)$	b)	$(-4x^3 + 2x^4 - x) \div 4x$
c)	$(5x^3 - x) - (4x^2 - x + 2)$	d)	$3x + 6y - 7x^2 + 12x - y + 4$

15) The perimeter of the rectangle is 52cm. The algebraic expression for the length is 5a-1. The algebraic expression for the width is 3a+4. What is the value of the length and width of the rectangle?



17) Consider the polynomials:

$$A = x^2 - 3x + 11$$
$$B = x^2 + 1$$
$$C = -4x + 1$$

Find.

4(A+C) - 2(B)

Answer:_____