

Last Name: \_\_\_\_\_  
First Name: \_\_\_\_\_

Date: \_\_\_\_\_  
Grade 9  
Term 1 Practice Test

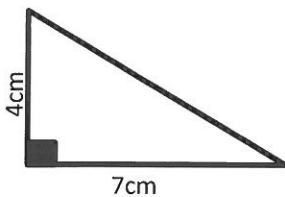
### Scientific Notation/Measurements

1) Convert the following.

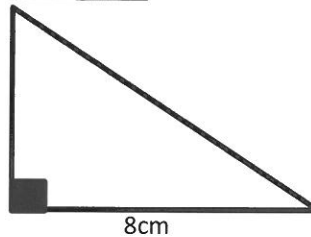
a)	$5\text{cm} = \underline{\hspace{2cm}} \text{km}$
b)	$43.21\text{km} = \underline{\hspace{2cm}} \text{hm}$
c)	$87\,549\text{cm}^2 = \underline{\hspace{2cm}} \text{km}^2$
d)	$5\,000\,000\text{mm}^2 = \underline{\hspace{2cm}} \text{m}^2$
e)	$4\text{m}^3 = \underline{\hspace{2cm}} \text{cm}^3$
f)	$0.234\text{dam}^3 = \underline{\hspace{2cm}} \text{hm}^3$
g)	$70\text{cm}^3 = \underline{\hspace{2cm}} \text{L}$
h)	$58\text{L} = \underline{\hspace{2cm}} \text{mm}^3$
i)	$5\text{m}^3 = \underline{\hspace{2cm}} \text{L}$
j)	$4723.4\text{cL} = \underline{\hspace{2cm}} \text{dm}^3$

2) The base and height of *Triangle#1* are 7cm and 4cm respectively. The base of *Triangle#2* is 8cm. The area of *Triangle#2* is exactly double the area of *Triangle#1*. What is the hypotenuse of *Triangle#2*?

Triangle 1

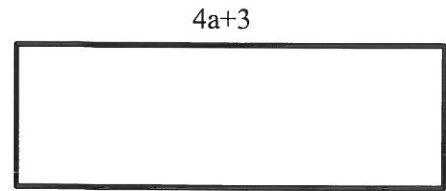


Triangle #2

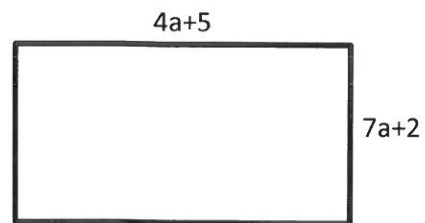


The hypotenuse is \_\_\_\_\_ cm.

- 3) The perimeter of the rectangle is  $74\text{cm}$ . The algebraic expression for the length of the rectangle is  $4a + 3$ . What is the algebraic expression for the width of the rectangle?



- 4) The perimeter of the rectangle is  $58\text{cm}$ . The algebraic expression for the length is  $4a+5$ . The algebraic expression for the width is  $7a+2$ . What is the value of the length and width of the rectangle?



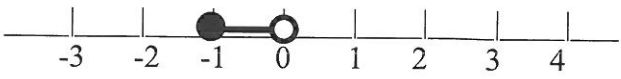
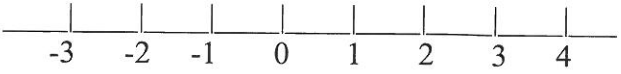
5) Determine if the following statements are **true** or **false**. The entire word must be written.

a. $\mathbb{N} \subseteq \mathbb{Z} \subseteq \mathbb{Q}' \subseteq \mathbb{R}$	b. $-2.4 \in \mathbb{Z}$
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6) TRUE or FALSE. All of the following are irrational numbers.  $\sqrt{8}, \sqrt[2]{58}, \sqrt[3]{144}$

Answer: \_\_\_\_\_

7) Complete the following chart.

(a)		
(b)		$] - \infty, -2[$

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

a)  $100\,000 =$  \_\_\_\_\_

b)  $0.000\,0001 =$  \_\_\_\_\_

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

a)	$2x^2y^3$	b)	$7x^9 - 8x^2 + 6$
Answer:		Answer:	

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

a)	$\sqrt[2]{36} =$ _____ $=$ _____	b)	$\sqrt[3]{27} =$ _____ $=$ _____
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11) Simplify the following expressions so they only have positive exponents.

a) $(6x^{-5}y^{-8})^{-2} =$	b) $(9a^{-1}bc^{-8})^3 =$
c) $\frac{72x^{-9}y^5}{9x^{-2}} =$	d) $\left(\frac{44x^{-13}y^{-5}}{4x^2y^{-3}}\right)^{-2} =$

12) Determine the degree of the following polynomial expressions.

a) $(2x^2)^4 + 5x^3$	b) $5x^4 + 7 + x^4$
Answer: degree = _____	Answer: degree = _____

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

a) $2(-5x) - 2 = 3(-4x) - 89$	b) $6(-17x - 5x) + 29 = 16 - 14x$
Answer: _____	Answer: _____

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

a)	$(-7x + 4)(6x + 1)$	b)	$-4x(-2x^2 - 15x - 16)$
c)	$(5x^3 - 8x + 3) - (-2x^3 - 3x + 9)$	d)	$25x + 36y - 4x^2 + 15x - 7y + 8$
e)	$4(13x - 5) - 8x(x - 7)$	f)	$\left(\frac{-45x^5}{9x^{-1}}\right)^{-1}$

