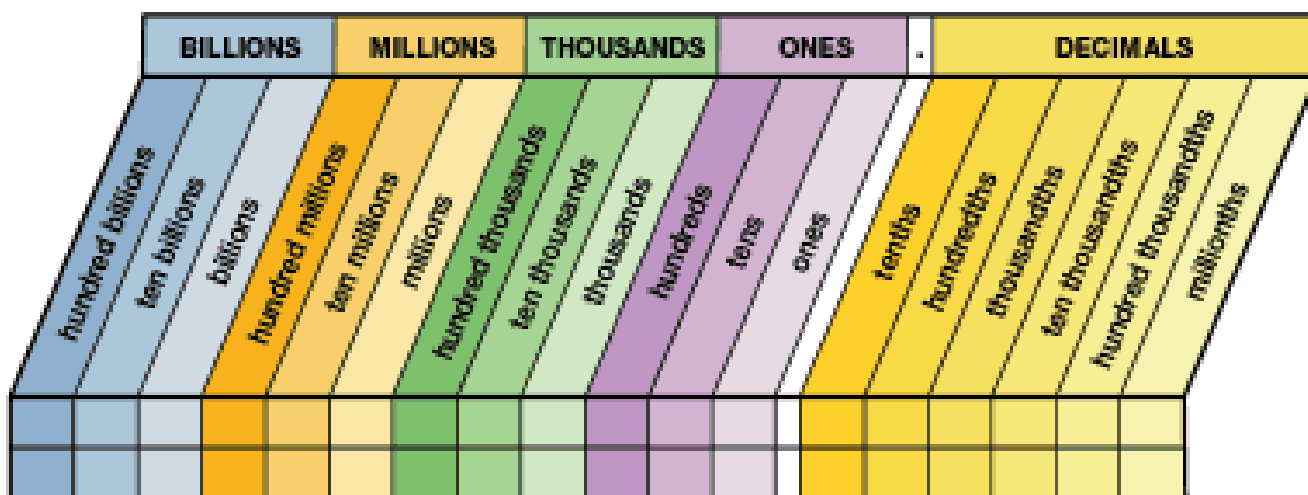# GRADE 6 PAT REVIEW

Math Vocabulary

NAME: _____

Number Concepts

Estimate	An approximate or rough calculation, often based on rounding.	19 is about 20 34 is about 30
Round	Change a number to a more convenient value. (0 – 4: place value stays same, followed by 0's), (5 – 9: place value increases, followed by 0's)	1 253 → 1 300 3 521 → 3 500
Standard Form	The traditional manner in which we write numbers.	2 706 431
Expanded Form	The manner in which we write numbers using their value in an expression.	3000 + 400 + 8 + 0.9
Written Form	The manner in which we write numbers using words.	Seven hundred twelve
Place Value	The value of a digit in a number depending on its place in the number.	See chart below

Factor	The numbers that are multiplied together. (factor x factor = Product)	Factors of 12: 1, 2, 3, 4, 6, 12
Common Factors	When one number has some of the same factors as another number. (6, 12 and 14 all have 1 and 2 as common factors, 6 and 12 also have 3 and 6 as common factors).	**6**: **1, 2, 3, 6** **12**: **1, 2, 3**, 4, **6**, 12 **14**: **1, 2**, 7, 14
Greatest Common Factors (GCF)	The largest factor that each of the numbers being compared have in common.	**9**: 1, **3**, 9 **12**: 1, 2, **3**, 4, 6, 12 **15**: 1, **3**, 5, 15
Factor Tree	A diagram used to identify the prime factors of a composite number. (TREE)	

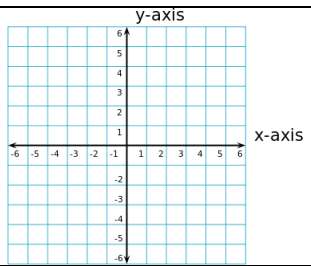| Prime Factorization	Using prime numbers in a number sentence to express a composite number.	3 x 2 x 2 x 2 x 2 x 2= 96
Multiple	The answers you find when you multiply one number by another number.	Multiples of 3: 3, 6, 9, 12, 15, 18…
Common Multiples	When one number has the same multiples as another number. (2, 3, 4 and 6 all have 12 as a common multiple, 2 and 4 also have a common multiple of 4, 2, 3 and 6 also share 6 as a common multiple).	**2**: 2, **4**, **6**, 8, 10, **12**… **3**: 3, **6**, 9, **12**… **4**: **4**, 8, **12**… **6**: **6**, **12**…
Lowest Common Multiple (LCM)	When comparing numbers, the LCM is the smallest number that is a multiple for all the numbers being compared.	**3**: 3, 6, 9, 12, **15**… **5**: 5, 10, **15**, 20, 25… **15**:**15**, 30, 45, 60…
Prime Number	Is a whole number greater than 1 with exactly 2 factors; 1 and itself. (<u>factor</u> x 1 = Product)	2, 3, 5, 7, 11, 13, 17…
Composite Number	A whole number with more than 2 factors. (Number x 1 = Number) (<u>factor</u> x <u>Factor</u> = Number)	4, 6, 8, 10, 12, 14, 15…
Zero and 1	0 and 1 cannot satisfy the definition for either PRIME OR COMPOSITE.	<u>NEITHER</u> prime or composite.
Integers	A positive number, a negative number or zero. (Think of reading temperature on a thermometer)	-4, -3, -2, -1, 0, 1, 2, 3, 4
Magnitude	Describes how far away from 0 a number is. Positive or negative 4 are the same magnitude.	-4, -3, -2, -1, 0, 1, 2, 3, 4
Opposite Integers	One is positive and one is negative. Both numbers have the same magnitude (distance away from 0).	-3 and 3

Number Operations

Sum	A total or whole amount that results when you add (plus) numbers together.	4 **+** 11 = 15
Difference	The amount that results when you subtract (minus) one number from another number.	15 **-** 11 = 4
Product	The amount that results when you multiply (times) numbers together.	2 **X** 3 = 6
Quotient	The amount that results when you divide one number by another number.	6 ÷ 3 = 2
Order of Operations	A problem in which you need to follow BEDMAS! 1 Brackets Do from left to right 2 Exponents Do from left to right 3 Division } Do together Multiplication } left to right 4 Addition } Do together Subtraction } left to right	6 **-** 3 **+** (3 **X** 2) ÷ 2 = 6

Decimals, Fractions, Percent & Ratio

Fraction	A part of a whole. Numerator Denominator	$\dfrac{1}{4}, \ \dfrac{3}{10}, \ \dfrac{40}{100}$
Decimal	A part of a whole. Usually expressed using tenths, hundredths and thousandths.	0.8, 3.25, 1.967
Mixed Number	A number with a whole number <u>and</u> a fraction.	$3\dfrac{1}{4}, \ 7\dfrac{3}{10}, \ 2\dfrac{40}{100}$
Improper Fraction	A fraction with a numerator greater than the denominator. BIG Numerator SMALL Denominator	$\dfrac{11}{5}, \ \dfrac{13}{7}, \ \dfrac{40}{30}$
Ratio	A way of comparing one quantity with another.	12 : 14 OR $\dfrac{12}{14}$ 12 to 14
Percent	A way of describing part of 100.	80% $= \dfrac{80}{100} = \dfrac{8}{10}$
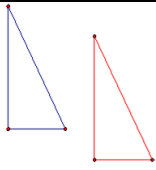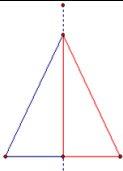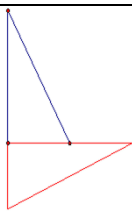
Patterns

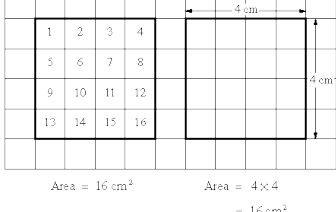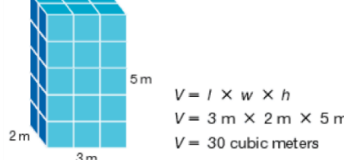| Table of Values	A table used to show a growing pattern.	<table><tr><td>x</td><td>y</td></tr><tr><td>-2</td><td>2</td></tr><tr><td>-1</td><td>1</td></tr><tr><td>0</td><td>0</td></tr><tr><td>1</td><td>1</td></tr><tr><td>2</td><td>2</td></tr></table>
Pattern Rule	A description of how to change a number according to an established pattern.	Multiply by 4, subtract 1
Cartesian Plane/ Grid	A plane or grid containing the x-axis (horizontal) and y-axis (vertical) which intersect at a point called the origin (0, 0).	
X axis	The horizontal axis of a graph (left → right).	See picture for the Cartesian Plane.
Y axis	The vertical axis of a graph (up → down).	See picture for the Cartesian Plane.
Ordered Pairs	A pair of numbers used to indicate a point on a Cartesian plane/ grid. (X-Axis #, Y-Axis #)	(4, 6)
Origin	The point where the x and y axes intersect on a Cartesian plane/ grid.	(0, 0)
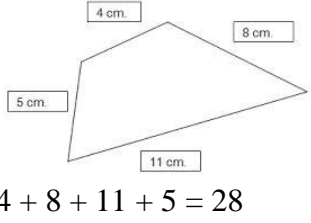
Variables & Equations

Expression	An equation that is used to describe a pattern. It includes a variable.	$6 + n = 9$
Equivalent Expression	An equation in which both sides of the equal sign have the same value.	$2n = 6$ $n = 3$
Variable	The unknown number which is represented by a letter.	$3n + 7 = 19$ $3n = 12$ $n = 4$
Preservation of Equality	When each side of an equation is changed in the same way. To cancel out the value you must use the opposite operation from the current expression.	$14 - m = 8$ (add) $5 + p = 11$ (subtract) $4 y = 12$ (divide) $16 \div z = 4$ (multiply)
Commutative Property	Changing the order of the numbers does <u>NOT</u> change the answer. Works when adding and multiplying.	$1 + 2 = 2 + 1$ $4 \times 2 = 2 \times 4$
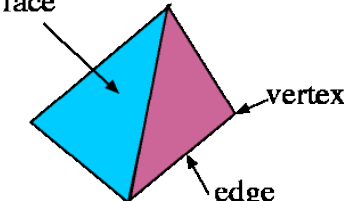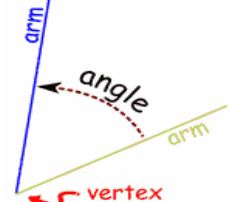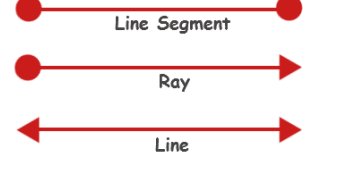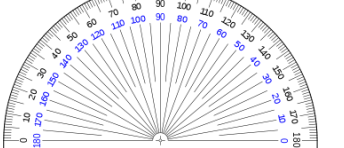
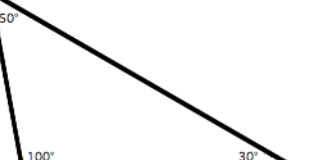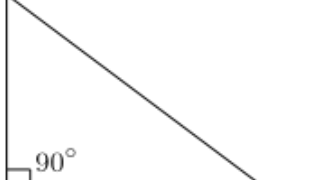# Transformations
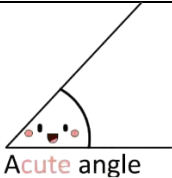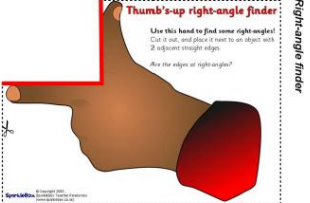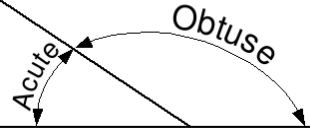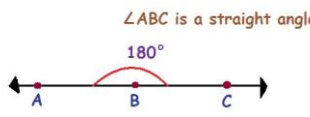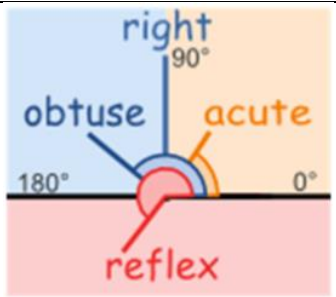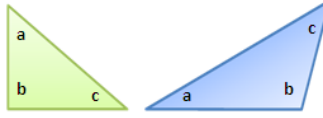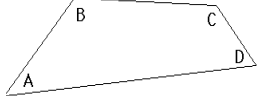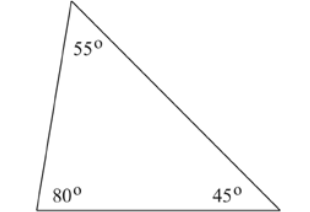
Transformation	A change in position which includes: reflection (flip), translation (slide), or rotation (turn).	See translation, reflection and rotation examples.
Translation	When there is a change in position in any direction without rotating it.	 Translation
Reflection	When there is a change in position that mirrors the original.	 Reflection
Rotation	When there is a change in position in which the object is turned.	 Rotation

Measurement

Perimeter	The distance around an object. (FENCE) **Formula: l + w + l + w = Perimeter** **2l + 2w = Perimeter** **2(l + w) = Perimeter**	4 cm. 8 cm. 5 cm. 11 cm. $4 + 8 + 11 + 5 = 28$
Area	The amount of space an object covers. (GRASS) **Formula: l x w = Area**	Area $= 16\,cm^2$ Area $= 4 \times 4$ $= 16\,cm^2$
Volume	The amount of space occupied by an object. (INSIDE). Can be measured by formula or displacement (of a liquid). **Formula: l x w x h = Volume**	$V = l \times w \times h$ $V = 3\,m \times 2\,m \times 5\,m$ $V = 30$ cubic meters

2D & 3D Shapes

Vertex	A point where the arms of an angle meet; where the sides of a polygon meet; or where the edges of a figure meet.	face vertex edge
Arm (Angle)	The two lines that meet to form an angle.	arm angle arm vertex
Line Segment	A section of a line bounded by two endpoints.	Line Segment Ray Line
Degrees	The measurement of the size of angles.	
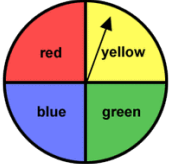
Acute Angle	The measure of the angle which is less than 90º.	Acute angle
Right Angle	The measure of the angle is EXACTLY 90°.	
Obtuse Angle	The measure of the angle is more than 90° and less than 180°.	
Straight Angle	The measure of the angle is EXACTLY 180°.	∠ABC is a straight angle.
Reflex Angle	The measure of the angle is more than 180° and less than 360°.	
Triangle Interior Angle	The 3 angles in a triangle have a total sum of 180°. a + b + c = 180°.	
Quadrilateral Interior Angle	The 4 angles in a quadrilateral have a total sum of 360°. a + b + c + d = 360°.	
Acute Triangle	A triangle with 3 acute angles. All angles are less than 90º.	
Obtuse Triangle	A triangle with one obtuse angle. One angle is more than 90° and less than 180°.	
Right Triangle	A triangle with one right angle. One angle is EXACTLY 90°.	

Scalene Triangle	A triangle with 3 different side lengths and 3 different angles.	
Isosceles Triangle	A triangle with 2 EQUAL side lengths and 2 EQUAL angles.	
Equilateral Triangle	A triangle with 3 EQUAL side lengths and 3 EQUAL angles.	
Regular Polygon	A shape with 3 or more equal sides and equal angles. Polygons are closed shapes with straight lines.	See picture below.
Irregular Polygon	A shape with 3 or sides and angles that are NOT equal. Polygons are closed shapes with straight lines.	See picture below.
Non-Polygon	It is not a polygon if: it has curved sides, crosses itself, is not closed, or is not connected end to end.	
Congruent	If the objects being compared have the same size and shape. They do <u>not</u> have to be in the same position/ orientation.	The Green Triangle on the right, is an upside down version of the Pink Triangle. They are both the same size and shape.
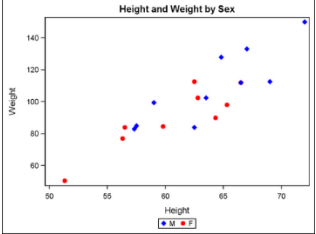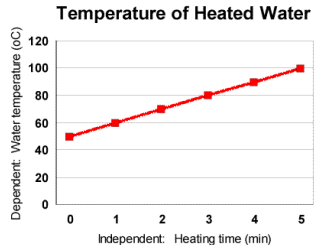
Numbers of sides	Regular Polygon	Irregular Polygon
3 sides (triangle)	△	◸
4 sides (quadrilateral)	☐	⋁
5 sides (pentagon)	⬠	⩔
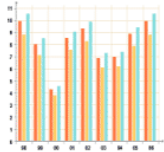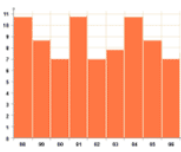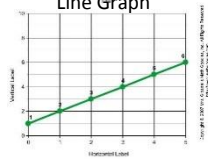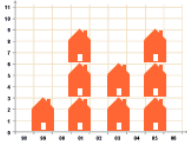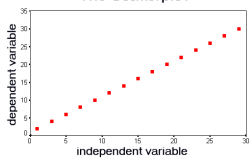
Numbers of sides	Regular Polygon	Irregular Polygon
6 sides (hexagon)	⬡	⋈
8 sides (octagon)	⯃	⅃

Chance & Uncertainty

Theoretical Probability	What is expected to happen based on the possible outcomes. Expressed as a ratio of favourable to possible outcomes.	$$\frac{\text{Number of favorable outcomes}}{\text{Number of possible outcomes}}$$
Experimental Probability	The result of an experiment or simulation after a large number of trials.	$$\frac{\text{Number of times the event occured}}{\text{Number of trials}}$$
At Random	That any item is equally likely to be selected.	

Data Analysis

Discrete Data	The data can only have a finite or a limited number of possible values.	
Continuous Data	The data can have an infinite number of possible values within a selected range.	
Questionnaire	A form containing a set of questions, designed as a way of gathering information for a survey.	
Survey	To gather information by individual samples in order to learn about the whole.	Use a cup of water from a river at different locations and at different times to determine water quality.
Experiment	Is a situation involving probability or chance that leads to results called outcomes.	

Database	A collection of information that is organized so it can be easily accessed, managed and updated. Usually computerized.	
Bias	When there is a flaw in the sample/ selection process that favors the outcome in a particular direction or omits a particular outcome.	
Fair	When there is an equally likely chance of selecting any outcome.	
Types of Graphs		