

JAMAICA_8th Grade Math

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- Example: How long is the model ship if length of ship is given?
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- Example: How many sweets would each get, if the no. of children is reduced by n ?
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- Example: By how much should the speed of car be increased so that it may take only n hrs to cover same distance?

- Example: How many machines would be required to produce the same no. of articles in a days?
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- Example: Complete the table of proportion
- Example: Complete the table of proportion
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- Example: Problem based on circumference of circle (1)
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- Example: Convert 'Fahrenheit' to 'Celsius' & vice-versa

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12.1 Visualising Shapes

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- Tutorial: Faces, Vertices and Edges
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- Example: Can a polyhedron have given number of faces, edges & vertices?
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- Tutorial: Introduction
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- Example: Count no. of acute & right angles (2)
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- Example: Find the supplement of given angle (1)
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- Example: Find the complement of the given angle
- Example: Find the supplement of the given angle
- Example: State the type of pairs of angles
- Example: Find the measure of other angle, given the angle of linear pair
- Example: AB & CD intersect at a point O. Given angle AOD, find the measure of other 3 angles
- Example: Find the pairs of vertically opp. angles & linear pairs
- Example: Find the pairs of vertically opp. angles & linear pairs
- Application: Yes\No (2)
- Application: Word Problem based on supplementary angles (3)
- Application: Find the angles when difference of two complementary angles is given (3)
- Practice Test
- Test your Skill

14. Polygons

14.1 Polygons

- Tutorial: Polygons
- Example: Find the diagonal of a regular hexagon (2)
- Example: Find the number of sides of hexagon (1)

- Example: Find the angle sum of convex polygon when number of sides is given
- Example: Find the angle measure of x in the given figure
- Example: Find the angle measure of x in the given figure
- Example: Find the angle measure of x in the given figure
- Example: Find the angle measure of x in the given figure
- Example: Find the unknown angles x , y & z in the given figure
- Example: Find the unknown angles x , y & z in the given figure
- Practice Test
- Test Your Skill

14.2 Triangles

- Tutorial: Classification of Triangles
- Tutorial: Angle Sum Theorem
- Tutorial: Properties of a Triangle
- Example: Identify the type of triangle (acute/obtuse/right)
- Example: Identify the type of triangle (equilateral/isosceles/scalene)
- Example: Find angles if measure of 1 angle & ratio of other 2 angles are given
- Example: Find measure of angles of triangle whose 2 exterior angles are given
- Example: Find the values of x , y & z in the given figure
- Example: Find angle using angle sum property
- Example: Find 2 angles of isosceles triangle, given 1 angle
- Example: Find which 2 sides of triangle are equal, given angles
- Example: Find x in given figure
- Example: Find angles, given an exterior angle
- Example: Given an angle of an isosceles triangle find remaining angles
- Example: Find side of triangle (side opp. equal angles)
- Example: Find measure of angle from given figure
- Practice Test
- Practice Test
- Practice Test
- Test Your Skill
- Test Your Skill

14.3 Congruence of Triangles

- Tutorial: Introduction to Congruence
- Example: State correspondence between sides of congruent triangles
- Example: State correspondence between angles of congruent triangles
- Example: Find 'm' if given triangles are congruent
- Tutorial: Criteria for Congruence of Triangles
- Example: Find side of congruent triangle
- Example: Find side of congruent triangle
- Example: Find side of congruent triangle
- Example: Find perimeter of quadrilateral ABCD
- Example: Find side of congruent triangle
- Practice Test
- Practice Test
- Test Your Skill
- Test Your Skill

14.4 Concept of Similarity

- Tutorial: Concept of similarity
- Example: Fill in the blanks (1 Mark)
- Example: Find angles if two triangles are similar (1 Mark)
- Example: Find x if two triangles are similar (1 Mark)
- Example: Find x if two quadrilaterals are similar (1 Mark)
- Practice Test

14.5 Quadrilateral

- Tutorial: Quadrilateral
- Example: Find measure of fourth angle of quadrilateral
- Example: Find measure of four angles of quadrilateral
- Practice Test1
- Test Your Skill

14.6 Types of Quadrilaterals

- Tutorial: Types of Quadrilaterals

- Example: Find measure of angle using properties of square
- Example: Find angle using properties of rectangle
- Practice Test
- Test Your Skill

14.7 Properties of a Parallelogram

- Tutorial: Properties of a Parallelogram
- Example: Given perimeter & longer side, find measure of shorter side of //gm
- Example: Find value of x & y from given parallelogram
- Example: Find angle in given parallelogram
- Example: Find measure of side using property of bisection of diagonals
- Example: Find measures of angles of parallelogram
- Practice Test1
- Test Your Skill

14.8 Types of Angles and Angle Pairs

- Tutorial: Types of angles and angle pairs
- Example: Problems based on complementary angles (2)
- Example: Problems based on supplementary angles (2)
- Example: Problems based on supplementary angles if ratio is known (1)
- Example: Find the unknown angles linear pair (4)
- Example: Find the unknown angles linear pair (3)
- Example: Find the unknown angles (5)
- Example: Find the unknown angles (5)
- Example: Find the unknown angles (3)
- Example: Find the measure of unknown angles (3)
- Example: Find the unknown angles
- Example: Find the unknown angles
- Example: Find the unknown angles
- Example: Find the unknown angle
- Example: Find the values of x & y from the given figure
- Example: Find the unknown angles, given the ratio of two angles
- Practice Test1

- Practice Test2
- Practice Test3
- Test your Skill

14.9 Transversal and Angle Pairs

- Tutorial: Transversal and angle pairs
- Example: Identify the pair of angles in the given figure (2)
- Practice Test
- Test your Skill

14.10 Parallel lines and Special Angle Pairs

- Tutorial: Parallel lines and special angle pairs
- Example: Find the unknown angles arms of angles are parallel (3)
- Example: Find the value of unknown angles given 2 parallel lines (2)
- Example: Find the value of x , if $l \parallel m$ (1)
- Example: Find the value of unknown angle given 2 parallel lines
- Example: Find the value of x , given 3 parallel lines
- Example: Find the value of unknown angles given 2 parallel lines
- Example: Find the value of x , if $l \parallel m \parallel n$
- Example: Find the value of unknown angles
- Example: Find the value of a, b, c , if $l \parallel m \parallel n$
- Example: Find the value of unknown angles given 2 parallel lines
- Example: Find the value of unknown angles given 2 parallel lines
- Practice Test1
- Practice Test2
- Practice Test3
- Practice Test4
- Test your Skill

14.11 Basic Constructions

- Tutorial: Basic Constructions

14.12 Construction of Triangles

- Tutorial: Construction of Triangles

- Tutorial: Construction of Triangles

14.13 Construction of Quadrilaterals

- Tutorial: Construction of Quadrilaterals when four sides and one diagonal are given
- Tutorial: Construction of Quadrilaterals when three sides and two diagonals are given
- Tutorial: Construction of Quadrilaterals when three angles and two included sides are given
- Tutorial: Construction of Quadrilaterals when three sides and their included angles are given
- Tutorial: Construction of Quadrilaterals when its four sides and one angle are given

15. Circles

15.1 Circle and its Related Terms

- Tutorial: Circle and its Related Terms
- Practice Test

15.2 Arcs of a Circle

- Tutorial: Arcs of a Circle
- Example: AB & CD are congruent arcs of circle with centre O. Given measure of 1 angle, find the other
- Example: AB & CD are congruent arcs of circle with centre O. Given measure of 1 angle, find the other at centre
- Example: Find the length of minor & major arcs
- Example: Find the length of the semicircle arc
- Example: Find the unknown angle & length of minor arc
- Example: Given the length of arc PQ, find the length of chord PQ
- Example: Find the length of major arc given the angle subtended by minor arc
- Practice Test
- Test Your Skill
- Example: Find the length of major arc given the angle subtended by minor arc & the radius
- Example: Find the ratio of the length of minor arc & circumference of the circle

15.3 Areas of Sector and Segment of a Circle

- Tutorial: Areas of sector and segment of a circle
- Example: Find area of shaded region (2 Marks)
- Example: Find area between ribs of umbrella (3 Marks)

- Example: Find area covered by minute hand (2 Marks)
- Example: Find area of corners of a triangular field (1 Mark)
- Example: Find area of minor and major segment (3 Marks)
- Example: Find area of shaded region(semi circle in quadrant) (3 Marks)
- Example: Find area of sea over which ships are warned (3 Marks)
- Example: Find area of sector of brooch (6 Marks)
- Example: Find area cut off from vertices of a trapezium (1 Mark)
- Example: Find area of shaded region inside an equilateral triangle (6 Marks)
- Example: Find length of an arc if area is given (3 Marks)
- Example: Find radius if length of arc & area of sector are known (1 Mark)
- Example: Find area of region between 2 sectors (2 Marks)
- Example: Find area cleaned by 2 wipers (1 Mark)
- Example: Find radius of circle if length of arc is known (1 Mark)
- Example: Find area of sector (1 Mark)
- Example: Find area of four corners of a rectangle (1 Mark)
- Example: Find ratio of areas of two sectors (1 Mark)
- Example: Find ratio of length of arc to circumference of circle (1 Mark)
- Example: Given the radius of a circle and angle subtended by an arc, find the length of an arc, area of sector & area of segment
- Example: Find the area of corresponding segment of the circle
- Example: Find the cost of making the design at the given rate
- Practice Test
- Test Your Skill

16. Algebra

16.1 Translate Phrases and Statements into Expressions and Equations

- Tutorial: Translate Phrases and Statements into Expressions and Equations
- Example: Translate the following into algebraic expression (1)
- Example: Express the following in form of equation (2)
- Example: Translate into algebraic expression (3)
- Example: Translate given statement into an equation
- Example: Form an equation for the given situation

- Example: Form an equation for the given situation
- Example: Form an equation for the given situation
- Example: Form an equation for the given situation
- Practice Test

16.2 Algebraic Expressions

- Tutorial: Recall
- Example: Identify the coefficient and variable in the given term (1)
- Example: Identify the like terms (3)
- Example: Write the degree, term and coefficient of the given polynomial (2)
- Example: Write the coefficient of variable from the given expression (1)
- Example: Identify given algebraic expression as monomial/binomial/trinomial (1)
- Example: Write the coefficient of given variable (1)
- Example: Identify given algebraic expression as monomial/binomial/trinomial (1)
- Test Your Skill

16.3 Addition and Subtraction of Algebraic Expressions

- Tutorial: Addition and Subtraction of Algebraic Expressions
- Example: Add the polynomials (1)
- Example: Add the polynomials (1)
- Example: Add the polynomials (1)
- Example: Subtract the polynomials (1)
- Example: Subtract the polynomials (2)
- Example: Subtract two algebraic expressions (2)
- Example: Subtract two algebraic expressions (2)
- Example: Subtract the polynomials (2)
- Example: Find perimeter of triangle whose sides are in form of binomial expressions (1)
- Example: Add the algebraic expressions (1)
- Example: What should be added to trinomial expression to make it binomial expression (3)
- Example: Add the 3 algebraic expressions
- Example: Add the algebraic expressions
- Example: Add the algebraic expressions
- Example: Add the algebraic expressions

- Example: Add the algebraic expressions
- Example: Subtract a polynomial from another
- Example: Subtract a polynomial from another
- Practice Test
- Test Your Skill

16.4 Algebraic Fractions

- Tutorial: Algebraic Fractions
- Example: Find LCM of given 2 polynomials
- Example: Find LCM of given 3 polynomials
- Example: Find LCM of given 2 rational expressions
- Example: Find LCM of given 3 rational expressions
- Example: Find LCM of given 3 rational expressions
- Practice Test1
- Test Your Skill

16.5 Simplification of Algebraic Fractions

- Tutorial: Simplification of Algebraic Fractions
- Example: Add algebraic fractions
- Example: Simplify (addition)
- Example: Add (using LCM)
- Example: Simplify (subtraction)
- Example: Simplify (changing signs)
- Example: Simplify (divide)
- Example: Add rational expression (find LCM)
- Example: Simplify (subtraction using LCM)
- Example: Multiply
- Example: Multiply and simplify (2 fractions)
- Example: Multiply
- Example: Multiply and simplify (3 fractions)
- Example: Simplify (divide)
- Example: Simplify (factorize and divide)
- Example: Simplify (factorize and divide)

- Practice Test1
- Practice Test2
- Test Your Skill

16.6 Evaluating Algebraic Expressions

- Tutorial: Evaluating Algebraic Expressions
- Example: Compute the expression when the value of variable is given (1)
- Example: Compute the expression for the given value of variable (2)
- Example: Compute the expression when value of variable is known (1)
- Example: Compute the expression for given value of variable (3)
- Example: Find the value of $x^2 - 2x - 100$ for given value of x
- Example: Simplify the expression and find its value for given value of x & y
- Example: Find the value of "a", given the value of expression for given x
- Example: Find the value of given expression for given value of a & b
- Practice Test1
- Practice Test2
- Test your Skill

16.7 Factor by grouping

- Tutorial: Factor by grouping
- Example: Factor by grouping
- Example: Factor by grouping
- Example: Factor by grouping the terms (7374)
- Example: Factor by grouping the terms (7576)
- Example: Factor by grouping the terms (7782)
- Example: Factor by grouping the terms (8389)

16.8 Simple Linear Equations

- Tutorial: Simple Linear Equations
- Example: Solve for x
- Example: Solve for x
- Example: Solve for x (take LCM of numbers)
- Example: Solve for x (same domain)

- Example: Solve for x (take LCM of numbers)
- Example: Solve given equation ($ax+b/cx+d = p/q$)
- Example: Solve given equation ($ax+b/cx+d = n$)
- Example: Solve given equation ($ax+b/cx+d = mx+n/px+q$)
- Practice Test1
- Test Your Skill

16.9 Problems based on Linear Equations

- Tutorial: Problems based on Linear Equations
- Application: Find dimension of land if perimeter is known
- Application: Application on age problem
- Application: Application on number problem
- Application: Application on consecutive integers
- Application: Find speed of steamer in still water
- Practice Test1
- Test Your Skill

16.10 Linear Equations in two Variables

- Tutorial: Linear Equations in two Variables
- Example: Express given linear equation in the form $ax + by + c = 0$
- Example: Identify if given value is a solution of the system
- Example: Represent given situation algebraically (cost of fruits)
- Example: Determine if given value is a solution of the system
- Practice Test1
- Test Your Skill

16.11 Method of Solving Simultaneous Linear Equations

- Tutorial: Method of Solving Simultaneous Linear Equations
- Application: Find price of sports goods
- Application: Find speed of cars travelling in opposite direction
- Application: Find the number of notes of specific denomination
- Application: Find the fraction
- Application: Find the fixed and additional rent change for a library

- Application: Find age of father (equals sum of ages of his children)
- Practice Test1
- Practice Test2
- Test Your Skill

16.12 Inequation

- Tutorial: Inequation
- Example: Solve & graph the inequality ($a+bx < cx+d$)
- Example: Solve & graph the inequality (ax less then equal to b)
- Practice Test1
- Test Your Skill

16.13 Solutions of Linear Inequalities

- Tutorial: Solutions of Linear Inequalities
- Example: Solve & graph the inequality ($a+bx < cx+d$)
- Example: Solve & graph the inequality (ax less then equal b)
- Example: Solve the inequality & graph the solution
- Example: Solve the inequality & graph the solution
- Practice Test1
- Test Your Skill

16.14 Translating Statements of Inequality

- Tutorial: Translating Statements of Inequality
- Application: Scores to get a B.
- Example: Temperatures as an inequality.
- Example: Use the inequality to write the statement in symbols (119119)
- Example: Use the inequality to write the statement in symbols (120120)
- Example: Use the inequality to write the statement in symbols (121121)
- Example: Use the inequality to write the statement in symbols (122122)
- Example: Use the inequality to write the statement in symbols (123123)
- Example: Use the inequality to write the statement in symbols (124124)
- Example: Use the inequality to write the statement in symbols (125125)
- Example: Setup & solve the inequalities to solve the problem (126127)

- Example: Setup & solve the inequalities to solve the problem (128128)
- Example: Setup & solve the inequalities to solve the problem (129129)
- Example: Setup & solve the inequalities to solve the problem (130130)
- Example: Setup & solve the inequalities to solve the problem (135135)
- Example: Setup & solve the inequalities to solve the problem (136136)
- Example: Setup & solve the inequalities to solve the problem (137138)
- Example: Setup & solve the inequalities to solve the problem (141141)

17. Relations and Functions

17.1 Relation

- Tutorial: Relation
- Example: Find domain and range
- Example: Find relation
- Example: Find domain and range
- Practice Test1
- Test Your Skill

17.2 Function

- Tutorial: Function
- Example: Evaluate function for given value
- Practice Test1
- Test Your Skill

18. Graphs of Linear/Non-Linear Functions/Equations

18.1 Plotting Ordered Pairs

- Tutorial: Graph Order Pairs
- Example: Plot (a,b)
- Example: Given the plot of a point, find its coordinates

18.2 Graphing a linear equation using points

- Tutorial: Graphing a linear equation using points
- Example: Graph $px + qy = r$

18.3 Graphing a linear equation Using intercepts

- Tutorial: Using intercepts to Graphing a linear equation
- Example: Plot $px + qy = r$ by plotting its intercepts

18.4 Solving Linear System by Graphing

- Tutorial: Solve Linear System Using Graphing
- Example: Find the solution of two equations in x, y by graphing

18.5 Solving Linear Inequalities

- Tutorial: Solutions of Linear Inequalities
- Example: Solve and graph the solution of an inequality.
- Example: Solve and graph the solution of an inequality.

18.6 Graphing Inequalities in 2 variables and Basic Principles

- Tutorial: Graphing Linear Inequalities in Two variables
- Example: Graph a given inequality

19. Statistics and Probability

19.1 Statistics

- Tutorial: Statistics

19.2 Presentation of Data

- Tutorial: Presentation of data
- Example: Calculate range, given marks in Math & English (2)
- Practice Test
- Test your Skill

19.3 Graphical Representation

- Tutorial: Reading Data from Bar and Line Graphs
- Tutorial: Reading Data from Pie Charts
- Application1: Bar Graph: Identify a particular bar
- Application2: Bar Graph: Total of bars
- Application3: Bar Graph: identify a particular bar
- Application4: Reading Data from Line graph
- Application1: Pie Chart: Identify a sector
- Application2: Pie Chart: Find percent

19.4 Measures of central tendency

- Tutorial: Measures of central tendency
- Example: Find mean of prime numbers less than a given number (2)
- Example: Find mode, given score in 10 matches (1)
- Example: Find median for given data (2)
- Example: Find x if mode is given (1)
- Example: Find x if median is given (2)
- Example: Find x if mean is given (2)
- Example: Find median of data1 where 'a' is mean of data2 (3)
- Example: Set of questions on mean (2)
- Example: Find excluded number, given mean with & without that number (2)
- Example: Find value of p if mean is given (3)
- Example: Find nth observation if mean of first & last n observations are known (2)
- Example: Find mean weight of students (3)
- Practice Test
- Test your Skill

19.5 Probability

- Tutorial: Probability
- Example: Find probability of germination of more than 'x' seeds (x given) for given data (2)
- Example: Find probability that a student gets more then 'x%' (x given) in a test (2)
- Example: Find probability that a batsman did not hit boundary (2)
- Example: Find probability of getting desired on throwing a dice outcome (2)
- Example: Find probability of getting desired weight of student (3)
- Practice Test1
- Practice Test2
- Practice Test3
- Test your Skill