



Geometry Math Skills

Here is a list of all of Geometry Math Skills.

A. Algebra review

1. 1
Ratios and proportions
2. 2
Scale drawings: word problems
3. 3
Properties of exponents
4. 4
Simplify radical expressions
5. 5
Write variable expressions
6. 6
Solve linear equations
7. 7
Solve linear inequalities
8. 8
Solve systems of linear equations

9. 9

Solve a quadratic equation by factoring

10.10

Solve a quadratic equation using the quadratic formula

B. Points, lines, and segments

1. 1

Lines, line segments, and rays

2. 2

Lengths of segments on number lines

3. 3

Additive property of length

4. 4

Midpoints

5. 5

Congruent line segments

6. 6

Perpendicular Bisector Theorem

7. 7

Midpoint formula: find the midpoint

8. 8

Midpoint formula: find the endpoint

9. 9

Distance formula

10.10

Construct the midpoint or perpendicular bisector of a segment

C. Angles

1. 1
Angle vocabulary
2. 2
Angle measures
3. 3
Identify complementary, supplementary, vertical, adjacent, and congruent angles
4. 4
Find measures of complementary, supplementary, vertical, and adjacent angles
5. 5
Angle bisectors
6. 6
Construct an angle bisector
7. 7
Construct a congruent angle
8. 8
Proofs involving angles

D. Parallel and perpendicular lines

1. 1
Identify parallel, perpendicular, and skew lines and planes
2. 2
Construct a perpendicular line
3. 3
Transversals: name angle pairs
4. 4
Transversals of parallel lines: find angle measures

5. 5
Construct parallel lines

6. 6
Proofs involving parallel lines I

7. 7
Proofs involving parallel lines II

E. Lines in the coordinate plane

1. 1
Coordinate plane review

2. 2
Slopes of lines

3. 3
Graph a linear equation

4. 4
Equations of lines

5. 5
Slopes of parallel and perpendicular lines

6. 6
Equations of parallel and perpendicular lines

7. 7
Find the distance between a point and a line

8. 8
Find the distance between two parallel lines

F. Introduction to triangles

1. 1
Classify triangles
2. 2
Triangle Angle-Sum Theorem
3. 3
Exterior Angle Theorem
4. 4
Exterior Angle Inequality

G. Two-dimensional figures

1. 1
Polygon vocabulary
2. 2
Interior angles of polygons
3. 3
Exterior angles of polygons
4. 4
Review: interior and exterior angles of polygons
5. 5
Construct an equilateral triangle or regular hexagon
6. 6
Construct a square

H. Three-dimensional figures

1. 1
Parts of three-dimensional figures
2. 2
Three-dimensional figure vocabulary
3. 3
Nets and drawings of three-dimensional figures
4. 4
Cross-sections of three-dimensional figures
5. 5
Solids of revolution

I. Logic

1. 1
Identify hypotheses and conclusions
2. 2
Counterexamples
3. 3
Conditionals
4. 4
Negations
5. 5
Converses, inverses, and contrapositives
6. 6
Biconditionals
7. 7
Truth tables

8. 8

Truth values

J. Introduction to congruent figures

1. 1

Congruence statements and corresponding parts

2. 2

Solve problems involving corresponding parts

3. 3

Identify congruent figures

K. Congruent triangles

1. 1

SSS and SAS Theorems

2. 2

Proving triangles congruent by SSS and SAS

3. 3

ASA and AAS Theorems

4. 4

Proving triangles congruent by ASA and AAS

5. 5

SSS, SAS, ASA, and AAS Theorems

6. 6

SSS Theorem in the coordinate plane

7. 7

Proving triangles congruent by SSS, SAS, ASA, and AAS

8. 8

Proofs involving corresponding parts of congruent triangles

9. 9

Congruency in isosceles and equilateral triangles

10.10

Proofs involving isosceles triangles

11.11

Hypotenuse-Leg Theorem

L. Transformations

1. 1

Classify congruence transformations

2. 2

Translations: graph the image

3. 3

Translations: find the coordinates

4. 4

Translations: write the rule

5. 5

Reflections: graph the image

6. 6

Reflections: find the coordinates

7. 7

Rotate polygons about a point

8. 8

Rotations: graph the image

9. 9

Rotations: find the coordinates

10.10

Compositions of congruence transformations: graph the image

11.11

Transformations that carry a polygon onto itself

12.12

Congruence transformations: mixed review

13.13

Dilations: graph the image

14.14

Dilations: find the coordinates

15.15

Dilations: scale factor and classification

16.16

Dilations and parallel lines

M. Triangles

1. 1

Midsegments of triangles

2. 2

Triangles and bisectors

3. 3

Identify medians, altitudes, angle bisectors, and perpendicular bisectors

4. 4

Angle-side relationships in triangles

5. 5

Triangle Inequality Theorem

6. 6
Construct the circumcenter or incenter of a triangle

7. 7
Construct the centroid or orthocenter of a triangle

8. 8
Proofs involving triangles I

9. 9
Proofs involving triangles II

N. Quadrilaterals

1. 1
Identify trapezoids

2. 2
Classify quadrilaterals I

3. 3
Classify quadrilaterals II

4. 4
Find missing angles in quadrilaterals

5. 5
Graph quadrilaterals

6. 6
Properties of parallelograms

7. 7
Proving a quadrilateral is a parallelogram

8. 8
Properties of rhombuses

9. 9

Properties of squares and rectangles

10.10

Properties of trapezoids

11.11

Properties of kites

12.12

Review: properties of quadrilaterals

13.13

Proofs involving quadrilaterals I

14.14

Proofs involving quadrilaterals II

O.Symmetry

1. 1

Line symmetry

2. 2

Rotational symmetry

3. 3

Draw lines of symmetry

4. 4

Count lines of symmetry

P. Similarity

1. 1
Similarity ratios
2. 2
Similarity statements
3. 3
Identify similar figures
4. 4
Side lengths and angle measures in similar figures
5. 5
Similar triangles and indirect measurement
6. 6
Perimeters of similar figures
7. 7
Similarity rules for triangles
8. 8
Similar triangles and similarity transformations
9. 9
Similarity of circles
10. 10
Triangle Proportionality Theorem
11. 11
Areas of similar figures
12. 12
Prove similarity statements

13. 13

Prove proportions or angle congruences using similarity

14. 14

Proofs involving similarity in right triangles

15. 15

Prove the Pythagorean theorem

Q. Right triangles

1. 1

Pythagorean Theorem

2. 2

Converse of the Pythagorean theorem

3. 3

Pythagorean Inequality Theorems

4. 4

Special right triangles

R. Trigonometry

1. 1

Trigonometric ratios: sin, cos, and tan

2. 2

Trigonometric ratios: csc, sec, and cot

3. 3

Trigonometric ratios in similar right triangles

4. 4

Trigonometric functions of complementary angles

5. 5

Find trigonometric functions of special angles

- 6. 6
Find trigonometric functions using a calculator
- 7. 7
Inverses of trigonometric functions
- 8. 8
Trigonometric ratios: find a side length
- 9. 9
Trigonometric ratios: find an angle measure
- 10. 10
Solve a right triangle
- 11. 11
Law of Sines
- 12. 12
Law of Cosines
- 13. 13
Solve a triangle

S. Area and perimeter

- 1. 1
Perimeter
- 2. 2
Area of rectangles and squares
- 3. 3
Area of parallelograms and triangles
- 4. 4
Area of trapezoids

- 5. 5
Area and perimeter in the coordinate plane I
- 6. 6
Area and perimeter in the coordinate plane II
- 7. 7
Area and circumference of circles
- 8. 8
Area of compound figures
- 9. 9
Area between two shapes
- 10.10
Area and perimeter of similar figures
- 11.11
Perimeter and area: changes in scale
- 12.12
Heron's formula
- 13.13
Area and perimeter mixed review

T. Surface area and volume

- 1. 1
Introduction to surface area and volume
- 2. 2
Surface area of prisms and cylinders
- 3. 3
Surface area of pyramids and cones

- 4. 4
Surface area of spheres
- 5. 5
Volume of prisms and cylinders
- 6. 6
Volume of pyramids and cones
- 7. 7
Volume of spheres
- 8. 8
Introduction to similar solids
- 9. 9
Surface area and volume of similar solids
- 10.10
Surface area and volume: changes in scale
- 11.11
Perimeter, area, and volume: changes in scale
- 12.12
Surface area and volume review

U.Circles

- 1. 1
Parts of a circle
- 2. 2
Central angles and arc measures
- 3. 3
Arc length

4. 4

Area of sectors

5. 5

Circle measurements: mixed review

6. 6

Arcs and chords

7. 7

Tangent lines

8. 8

Perimeter of polygons with an inscribed circle

9. 9

Inscribed angles

10.10

Angles in inscribed right triangles

11.11

Angles in inscribed quadrilaterals I

12.12

Angles in inscribed quadrilaterals II

13.13

Construct a tangent line to a circle

14.14

Construct an equilateral triangle inscribed in a circle

15.15

Construct a square inscribed in a circle

16.16

Construct a regular hexagon inscribed in a circle

17.17

Construct the inscribed or circumscribed circle of a triangle

V. Circles in the coordinate plane

1. 1

Find the center of a circle

2. 2

Find the radius or diameter of a circle

3. 3

Write equations of circles in standard form from graphs

4. 4

Write equations of circles in standard form using properties

5. 5

Convert equations of circles from general to standard form

6. 6

Find properties of circles from equations in general form

7. 7

Graph circles from equations in standard form

8. 8

Graph circles from equations in general form

W. Measurement

1. 1

Convert rates and measurements: customary units

2. 2

Convert rates and measurements: metric units

3. 3

Convert square and cubic units of length

- 4. 4
Precision
- 5. 5
Greatest possible error
- 6. 6
Minimum and maximum area and volume
- 7. 7
Percent error
- 8. 8
Percent error: area and volume
- 9. 9
Calculate density, mass, and volume

X. Probability

- 1. 1
Theoretical and experimental probability
- 2. 2
Outcomes of compound events
- 3. 3
Independent and dependent events
- 4. 4
Counting principle
- 5. 5
Permutations
- 6. 6
Permutation and combination notation

7. 7

Find probabilities using combinations and permutations

8. 8

Find probabilities using two-way frequency tables

9. 9

Identify independent events

10.10

Find conditional probabilities

11.11

Independence and conditional probability

12.12

Find conditional probabilities using two-way frequency tables

13.13

Geometric probability

Y.Vectors

1. 1

Compass directions and vectors

2. 2

Find the magnitude of a vector

3. 3

Find the component form of a vector

4. 4

Find the component form of a vector given its magnitude and direction angle

5. 5

Graph a resultant vector using the triangle method

6. 6

Graph a resultant vector using the parallelogram method

7. 7

Add vectors

8. 8

Subtract vectors