

UM PRINTABLES · PREMIUM MATH SERIES

Geometry

Full-Year Spiral Review

Bell Ringers

180 Daily Warm-Ups · 9 Monthly Themed Sets · CCSS-Aligned



PRINTABLES

Premium Educational Resources

180

Daily bell ringers (one per school day)

9

Monthly themed sets of 20 warm-ups

4

Problems per bell ringer (3 new + 1 spiral-back)

720

Total problems with full step-by-step solutions

Grade Level: High School Geometry (Grades 9–11) | **Standard:** CCSS Geometry clusters G-CO, G-SRT, G-C, G-GPE, G-GMD, G-MG

Edition: Full-Year Complete Bundle | **Format:** Printable PDF

Teacher Notes & How to Use This Resource

Welcome! Thank you for choosing the UM Printables *Geometry Full-Year Spiral Review Bell Ringers*. This premium resource gives you 180 daily warm-ups — one for every day of a standard 180-day school year — designed to keep every major Geometry skill sharp long after its unit has ended. Research on spaced retrieval practice and interleaving consistently shows that students retain far more when topics are revisited at increasing intervals rather than studied once and abandoned. This program operationalizes that research in a ready-to-print format that respects a teacher's tight instructional minutes.

Why Spiral Review?

Traditional Geometry instruction front-loads a topic in a 2–3 week unit, assesses it, and moves on — leaving the skill to decay over the remaining months. A spiral review re-exposes students to previously learned material in small, deliberate doses. Each UM Printables bell ringer takes 5–8 minutes, contains 3 new problems on the current month's focus cluster, and closes with one *spiral-back* problem drawn from a previous month. By June, students will have seen every major Geometry topic dozens of times, and the cumulative effect on retention, transfer, and end-of-year state-test performance is substantial.

Recommended 5–8 Minute Routine

Minute	Teacher Action	Student Action
0:00 – 1:00	Project or distribute the day's bell ringer. Read the objective aloud.	Settle in, read the four problems, identify the spiral-back problem.
1:00 – 5:00	Circulate, prompt thinking with questions, note misconceptions.	Work all four problems independently or in pairs. Show all work.
5:00 – 7:00	Call on students to share. Display the answer key solution.	Self-check, correct in a different color, ask clarifying questions.
7:00 – 8:00	Highlight the connection between today's spiral and the current unit.	Record any missed concept in a personal "growth tracker."

Differentiation Tips

For students who finish early: Invite them to write a 5th problem of the same type, then trade with a neighbor. **For students who struggle:** Allow the first 90 seconds to be a "silent diagram study" — name every labeled part before attempting the problem. **For cooperative groups:** Assign roles — Reader, Diagram-Annotator, Calculator, Justifier — and rotate weekly. **For English Learners:** Provide a sentence frame for the spiral-back justification (e.g., "I know ____ because ____"). **For advanced students:** Ask them to identify the most efficient solution path among three alternatives and defend their choice.

Formative Assessment Ideas

Use the bell ringers as a daily temperature check. Keep a simple spreadsheet with one row per student and one column per day; mark a +, ✓, or – based on a quick visual scan. After every five days, sort the columns to surface common misconceptions and pull a small group during independent practice. The answer key's detailed step-by-step solutions can be projected for self-checking, printed as a half-sheet for absent students, or uploaded to your LMS for

CCSS Alignment & Pacing Guide

The 180 bell ringers are organized into nine monthly themed sets. Each month focuses on one major CCSS Geometry cluster while spiraling back through all previous clusters. The table below maps each month to its primary standard, the number of days, and the spiral-back targets.

Month	Theme	Primary CCSS Cluster	Days	Spiral-Back Targets
1	Foundations	G-CO.A.1, G-CO.B.6, G-CO.C.9 (points, lines, planes, angles, midpoint, distance)	20	— (foundational)
2	Logical Reasoning & Intro Proofs	G-CO.A.2, G-CO.B.7, G-CO.C.9, G-CO.C.10 (conditionals, properties, two-column proofs)	20	Month 1: angles, midpoint, distance
3	Parallel & Perpendicular Lines	G-CO.A.1, G-CO.C.9, G-GPE.B.5 (transversals, slope)	20	Months 1–2
4	Triangle Congruence	G-CO.B.6, G-CO.B.7, G-CO.B.8, G-CO.C.10 (SSS, SAS, ASA, AAS, HL, CPCTC)	20	Months 1–3
5	Similarity & Dilations	G-SRT.A.1, G-SRT.A.2, G-SRT.B.4, G-SRT.B.5 (AA~, SSS~, SAS~, scale factor)	20	Months 1–4
6	Right Triangle Trigonometry	G-SRT.B.4, G-SRT.B.5, G-SRT.C.6, G-SRT.C.8 (Pythagorean theorem, sin/cos/tan)	20	Months 1–5
7	Polygons & Quadrilaterals	G-CO.C.11, G-GMD.A.1, G-GMD.A.3 (properties, area, perimeter)	20	Months 1–6
8	Circles	G-C.A.1, G-C.A.2, G-C.B.5, G-GPE.A.1 (arcs, chords, sectors, equations)	20	Months 1–7
9	Solid Geometry	G-GMD.A.1, G-GMD.A.2, G-GMD.A.3, G-GMD.B.4 (volume, surface area, cross-sections)	20	Months 1–8 (full-year review)

180-Day Pacing Calendar

The resource is designed to begin on Day 1 of the school year and run continuously through Day 180. Each month corresponds to roughly four weeks of instruction (20 school days). Build in natural flexibility days — for assemblies, snow days, or unit assessments — by treating any 5-day span as a "week." If you miss a day, do not skip a bell ringer; simply shift forward. The spiral design means no single day is ever critical, but cumulative exposure is. The final month (Days 161–180) is intentionally the broadest spiral, pulling from every prior month for full-year exam review.

MONTH 1

Month 1 — Foundations of Geometry

Points · Lines · Planes · Angles · Midpoint · Distance Formula

Month 1 builds the geometric vocabulary students will use all year. Each day reviews the undefinable terms (point, line, plane), the three angle-pair relationships (complementary, supplementary, vertical), and the two algebraic tools that bridge coordinates and geometry: the midpoint and distance formulas. By Day 20, students should name any basic figure, classify any angle pair, and compute a length or midpoint in their sleep.

20	4	80
Daily Bell Ringers	Problems per Day	Total Problems

DAY 1

Points, Lines, and Planes

MONTH 1 ·

Foundations of
Geometry*Objective: Name and identify the fundamental geometric figures.*

1. Use the figure to name three different ways to represent the line passing through points A and B.

*Show all work:*

2. How many planes are shown in the figure, and what is their line of intersection?

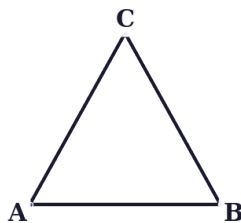
*Show all work:*

3. Sketch three points A, B, C on a single line. Are they collinear, coplanar, or both? Explain.

*Show all work:*

◆ **SPIRAL-BACK** (review from a prior month)

4. [Spiral] Three points are shown. Are they collinear? Justify using the definition of "between."

*Show all work:*

DAY 6

Angle Classification

MONTH 1 ·

Foundations of
Geometry

Objective: Classify angles as acute, right, obtuse, straight, or reflex.

1. Classify an angle measuring 23° .

Show all work:

2. Classify an angle measuring 90° .

Show all work:

3. Classify an angle measuring 175° .

Show all work:

◆ **SPIRAL-BACK** (review from a prior month)

4. [Spiral] An angle measures $3x^\circ$ and is right. Find x .

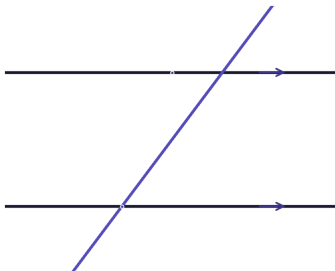
Show all work:

DAY 1

Identifying Angle Pairs

MONTH 3 · Parallel
& Perpendicular
Lines*Objective: Name the five special angle pairs formed by a transversal.*

1. Two parallel lines are cut by a transversal. Name two pairs of corresponding angles.



Show all work:

2. Name a pair of alternate interior angles.

Show all work:

3. Name a pair of same-side interior (consecutive interior) angles.

Show all work:

- ◆ **SPIRAL-BACK** (review from a prior month)

4. **[Spiral]** Write the converse of "If two lines are parallel, then corresponding angles are equal."

Show all work:

DAY 1

Congruent Figures — Definition

MONTH 4 ·

Triangle
Congruence*Objective: Identify corresponding parts of congruent figures.*

1. What does it mean for two figures to be congruent?

Show all work:

2. In $\triangle ABC \cong \triangle DEF$, list three pairs of corresponding parts.

Show all work:

3. If $\triangle ABC \cong \triangle DEF$ and $AB = 7$, find DE .

Show all work:

- ◆ **SPIRAL-BACK** (review from a prior month)

4. [Spiral] Two parallel lines are cut by a transversal. Corresponding angles measure $(3x + 5)^\circ$ and $(5x - 7)^\circ$. Find x .

Show all work:

DAY 2

Pythagorean Triples

MONTH 6 · Right
Triangle
Trigonometry &
Pythagorean
Theorem

Objective: Recognize and use common Pythagorean triples.

1. A right triangle has legs 9 and 12. Find the hypotenuse. Which triple is this?

Show all work:

2. A right triangle has legs 8 and 15. Find the hypotenuse.

Show all work:

3. A right triangle has legs 20 and 21. Find the hypotenuse.

Show all work:

◆ **SPIRAL-BACK** (review from a prior month)

4. [Spiral] Two similar triangles have perimeters 12 and 18. Find the scale factor.

Show all work:

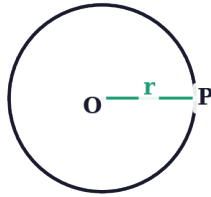
DAY 1

Circle Vocabulary

MONTH 8 · Circles

Objective: Identify and define parts of a circle.

1. Define "radius," "diameter," "chord," and "tangent."



Show all work:

2. In a circle with radius 7, find the diameter.

Show all work:

3. In a circle with diameter 20, find the radius.

Show all work:

◆ **SPIRAL-BACK** (review from a prior month)

4. [Spiral] Find the area of a parallelogram with base 10 and height 7.

Show all work:

DAY 1

Solid Vocabulary

MONTH 9 · Solid
Geometry

Objective: Identify and classify common solids.

1. Define "prism," "pyramid," "cylinder," "cone," "sphere."

Show all work:

2. How many faces, edges, vertices does a rectangular prism have?

Show all work:

3. How many faces, edges, vertices does a triangular pyramid (tetrahedron) have?

Show all work:

◆ **SPIRAL-BACK** (review from a prior month)

4. [Spiral] Find the area of a circle with radius 7.

Show all work:

Answer Key — Month 1 — Foundations of Geometry

Points · Lines · Planes · Angles · Midpoint · Distance Formula

DAY 1 · Points, Lines, and Planes

1. Use the figure to name three different ways to represent the line passing through points A and B.



1. A line is named by any two points on it, in either order, with a double-headed arrow over the letters, or by a single lowercase letter.
2. Reading the diagram, the line passes through A and B.
3. Three valid names: $\leftrightarrow AB$, $\leftrightarrow BA$, or simply "line AB".

✓ **Answer: $\leftrightarrow AB$, $\leftrightarrow BA$, or line AB**

2. How many planes are shown in the figure, and what is their line of intersection?



1. A plane is a flat surface extending infinitely in two dimensions; it is named by three non-collinear points or a single capital letter.
2. The diagram shows two planes, P (indigo) and Q (teal), overlapping in space.
3. Two distinct planes intersect in exactly one line; the intersection is the segment shared by both parallelograms.

✓ **Answer: 2 planes; they intersect in a single line.**

3. Sketch three points A, B, C on a single line. Are they collinear, coplanar, or both? Explain.



1. Collinear means the points lie on the same line.
2. Coplanar means the points lie on the same plane.
3. Any three collinear points automatically lie in infinitely many planes, so they are coplanar as well.
4. Therefore: both collinear and coplanar.

✓ **Answer: Both collinear and coplanar.**

- ◆ 4. [Spiral] Three points are shown. Are they collinear? Justify using the definition of "between."

WHAT'S INSIDE

GEOMETRY · FULL-YEAR SPIRAL REVIEW BELL RINGERS

180

Daily Bell Ringers

720

Total Problems

9

Monthly Themed Sets

307

PDF Pages

9 Monthly Themes

Each month spirals back through every prior month

1

Foundations

Points · Lines · Planes · Angles ·
Midpoint · Distance

2

Logical Reasoning

Conditionals · Properties · Two-Column
Proofs

3

Parallel Lines

Transversals · Angle Pairs · Slope

4

Triangle Congruence

SSS · SAS · ASA · AAS · HL · CPCTC

5

Similarity & Dilations

AA~ · SSS~ · SAS~ · Scale Factor

6

Right Triangle Trig

Pythagorean · Special Triangles ·
sin/cos/tan

7

Polygons & Quads

Parallelograms · Rectangles · Rhombi ·
Trapezoids

8

Circles

Arcs · Chords · Tangents · Sectors ·
Equations

9

Solid Geometry

Prisms · Pyramids · Cylinders · Cones ·
Spheres



Daily Diagrams

Every bell ringer includes labeled
geometry figures



Spiral-Back Review

Each day ends with one problem from a
prior month



Detailed Answer Key

Step-by-step solutions with theorem
citations

Full Resource: 180 Bell Ringers · 720 Problems · 307 Pages

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