NJGPA-A Geometry Prep

55 days of practice.
One question. Clear reasoning.
A strategy to remember.

Date: _____

Name: _____

Teacher / Period: _____

NJSLA-A Geometry reporting categories

Congruence

Similarity, Right Triangles, and Trigonometry

Geometric Measurement and Dimension & Modeling with Geometry

Expressing Geometric Properties with Equations & Circles

Category reference: NJDOE NJSLA-A Mathematics Blueprint. This packet retains its NJGPA-A released-practice emphasis; it is not a complete NJSLA-A Geometry blueprint simulation.

Build confidence by showing your thinking, checking your work, and learning from each correction.

Bring a pencil, straightedge, and your willingness to try. Your teacher will provide a compass when a construction is assigned.

Strategy: Read the whole question before choosing a method.

How to use this packet

Daily routine

Respond to the selected-response, numeric-entry, graphing or structured item first. Use the workspace to reason and check. Written explanations are for classroom learning, not an extended-response exam requirement. Record a strategy after feedback.

Released-practice alignment

The official online practice answer/alignment key anchors this packet. Main items use paper adaptations of machine-scorable formats. The five DOK 4 investigations are classroom extensions, not test items. These original questions are not reproduced official items.

Recording dates

There are 55 practice questions. The teacher will ask students to enter their own dates. Record the assigned dates in the table of contents and on the progress-monitoring page.

DOK distribution

Target: DOK 1 = 50%, DOK 2 = 30%, DOK 3 = 10%, DOK 4 = 10%. With 55 questions, the nearest whole-question allocation is 28 / 16 / 6 / 5: 50.9%, 29.1%, 10.9%, 9.1%. DOK describes thinking demand, not how hard a calculation feels.

Extended investigations

The five DOK 4 pages launch work across multiple sessions with evidence, evaluation, and revision. Schedule follow-up time beyond the daily warm-up and attach the investigation records. A single short response does not complete these tasks.

Content emphasis

Of 50 test-style questions, 30 target similarity/right triangles/trigonometry and 20 target other Geometry skills. All five extensions also use similarity. This approximates NJGPA-A emphasis; the requested DOK distribution is a classroom plan, not an official test specification.

How the performance file is used

The supplied NJGPA tab identifies Geometry weaknesses in dilations (G.SRT.A.1), similarity transformations (G.SRT.A.2), circle relationships (G.C.A.2), and constructions (G.CO.D.12). These receive repeated practice. Its descriptions are not full official proficiency-level descriptors.

Separate teacher key and released references

All 14 Geometry standards in the supplied NJGPA tab appear, plus selected Geometry standards in the official practice key. The separate teacher key lists a released online item anchor or a related-skill link. ONLINE sequence numbers can differ from PAPER question numbers.

Strategy: Label your diagram with the information you are given.

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	2	Calculate a building height G.SRT.C.8	25
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	1	Connect complementary angles G.SRT.C.7	27
	4	Investigate similarity in design G.SRT.A.2	28
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	3	Evaluate dilation claims G.SRT.A.1	30
	1	Describe polygon symmetry G.CO.A.3	31
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Strategy: Check whether your answer needs units or square/cubic units.

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Guide: p. 2 | Progress: p. 5 | Sources: p. 61 | Answer key: separate teacher document

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Motivation: A corrected mistake is evidence of learning.

My progress in Geometry

Write your practice dates as directed by your teacher.

Name: _____ Period: _____

After feedback, record your results and choose one specific next step. For DOK 4, record the project rubric points earned / possible when the investigation is complete.

Practice dates	Points earned / possible	Skill I need to practice	My next step
	____ / ____		
	____ / ____		
	____ / ____		
	____ / ____		
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	____ / ____		
	____ / ____		

Confidence check: 1 = I need help | 2 = I can do it with support | 3 = I can do it independently

Category	Starting confidence	Current confidence
Similarity, Right Triangles & Trigonometry	____	____
Congruence, Measurement & Circles	____	____

My next goal: _____

Strategy: State the theorem or relationship that supports your reasoning.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 2

Standard: G.SRT.A.1 | Big Ideas / NGL 2025: 4.5; 8.1

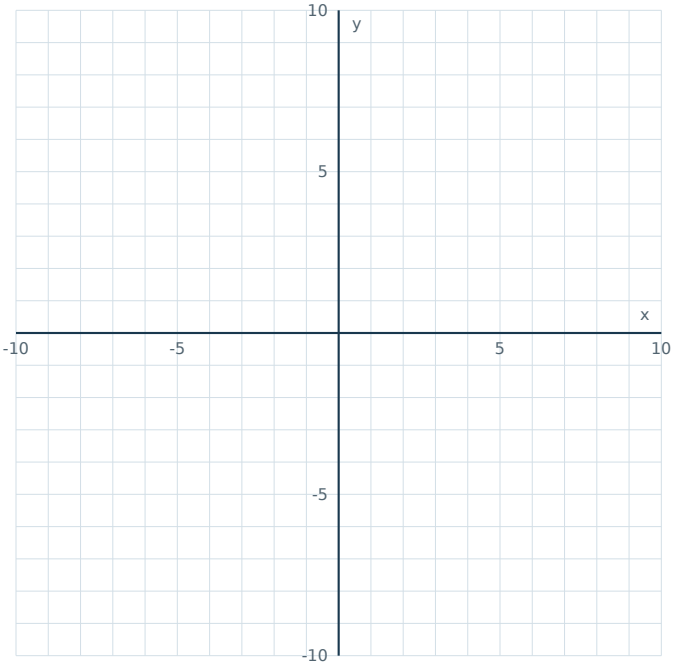
Name: _____ Period: _____

Numeric / equation / coordinate entry

Dilate a triangle

Triangle ABC has A(2, 1), B(6, 1), C(2, 4). Dilate it by 3/2 about the origin. Enter the six coordinates of A′, B′ and C′ in the spaces you label below.

Show your work / Explain your reasoning



Important strategy I want to remember

Strategy: Keep exact values until a question asks you to round.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 1

Standard: G.SRT.A.1 | Big Ideas / NGL 2025: 4.5

Name: _____ Period: _____

Numeric / equation / coordinate entry

Find a dilation scale factor

A dilation centered at the origin maps P(2, 4) to P′(5, 10). Enter the scale factor.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Use a sketch to make a geometric relationship visible.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 1

Standard: G.SRT.A.2 | Big Ideas / NGL 2025: 4.6; 8.1

Name: _____ Period: _____

Multiple choice

Recognize similar figures

A triangle has side lengths 3, 4, and 5. Which set of lengths describes a similar triangle? Select one answer.

A. 4, 5, 6

B. 6, 8, 10

C. 6, 8, 12

D. 3, 4, 6

Show your work / Explain your reasoning

Important strategy I want to remember

Motivation: Focus on the next useful step, even when a problem feels difficult.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 1

Standard: G.CO.A.3 | Big Ideas / NGL 2025: 4.3

Name: _____ Period: _____

Multiple choice

Rotate a regular polygon

A regular pentagon is centered at O. Which is the smallest positive rotation about O that maps the pentagon onto itself? Select one answer.

A. 36°

B. 72°

C. 90°

D. 144°

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Check that your answer satisfies every condition in the question.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 2

Standard: G.CO.A.5 | Big Ideas / NGL 2025: 4.1–4.4

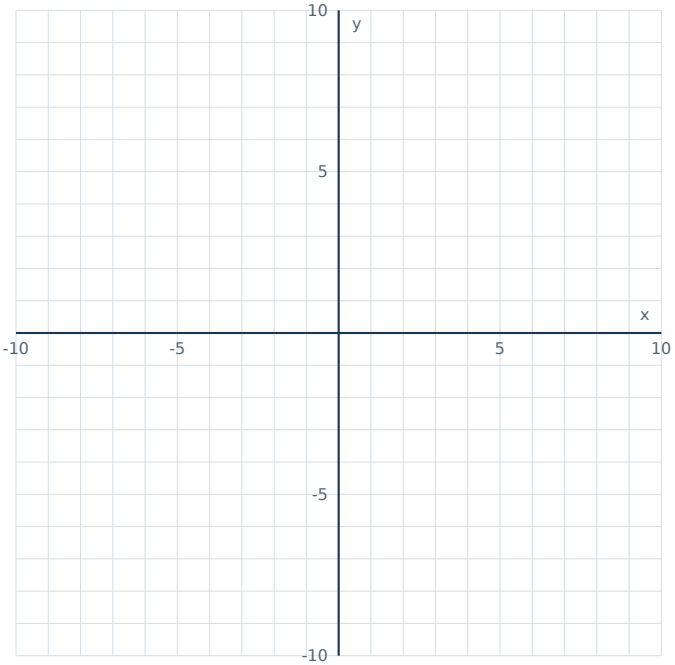
Name: _____ Period: _____

Graphing (paper adaptation)

Graph a transformation sequence

A triangle has vertices (1, 1), (4, 1), (1, 3). Reflect it across the y-axis, then translate it 5 units right and 2 units down. Plot and connect the three final vertices on the grid.

Show your work / Explain your reasoning



Important strategy I want to remember

Strategy: Estimate first so you can judge whether your result is reasonable.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 2

Standard: G.SRT.A.1 | Big Ideas / NGL 2025: 4.5

Name: _____ Period: _____

Multiple choice

Dilate from a given center

A dilation has center C(1, −2) and scale factor 2. Point P(4, 0) maps to P′. Select P′.

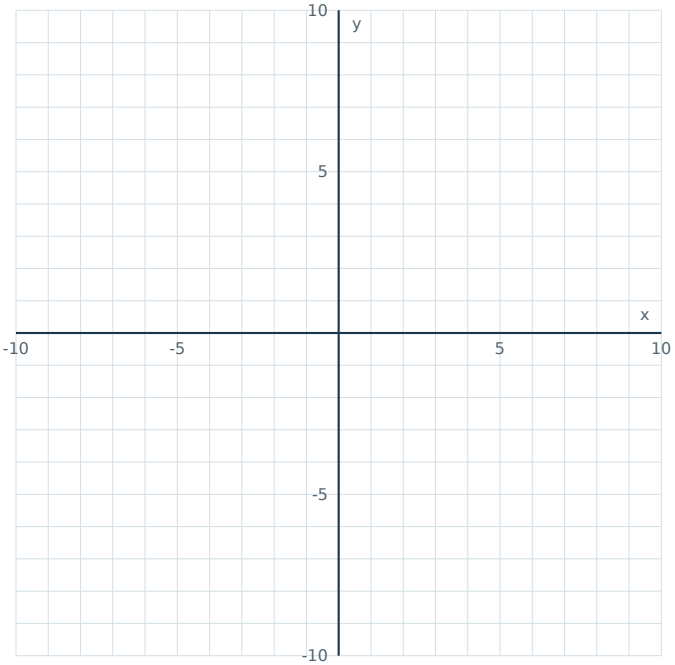
A. (8, 0)

B. (6, 4)

C. (7, 2)

D. (5, −2)

Show your work / Explain your reasoning



Important strategy I want to remember

Motivation: Confidence grows through practice, feedback, and another try.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 1

Standard: G.SRT.C.6 | Big Ideas / NGL 2025: 9.4–9.5

Name: _____ Period: _____

Multiple choice

Identify a trigonometric ratio

In a right triangle, the side opposite acute angle θ is 5 and the hypotenuse is 13. Select the value of sin θ.

A. 5/13

B. 12/13

C. 5/12

D. 13/5

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Compare your final answer with what the question actually asks.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 3

Standard: G.SRT.B.5 | Big Ideas / NGL 2025: 8.2–8.3

Name: _____ Period: _____

Multi-select

Evaluate similarity information

A designer must establish similarity before using a scale drawing. Triangle ABC has AB = 6, AC = 9, and ∠A = 50°. Select ALL sets of information about triangle DEF that are sufficient to establish ABC ~ DEF in the listed order.

A. DE = 4, DF = 6, and ∠D = 50°

B. DE = 4, DF = 6, and ∠E = 50°

C. ∠D = 50° and ∠E = ∠B

D. DE = 4 and DF = 6 only

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Read the whole question before choosing a method.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 2

Standard: G.SRT.B.5 | Big Ideas / NGL 2025: 8.1; 8.4

Name: _____ Period: _____

Numeric / equation / coordinate entry

Find a corresponding side

Triangles ABC and DEF are similar with A ↔ D, B ↔ E, and C ↔ F. AB = 8, BC = 10, DE = 12. Enter EF.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Label your diagram with the information you are given.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 2

Standard: G.SRT.B.5 | Big Ideas / NGL 2025: 8.4

Name: _____ Period: _____

Multiple choice

Find a proportional segment

In triangle ABC, D lies on AB and E lies on AC with DE parallel to BC. AD = 6, DB = 3, AE = 8. Select EC.

A. 4

B. 6

C. 12

D. 16

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Check whether your answer needs units or square/cubic units.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 2

Standard: G.GPE.B.5 | Big Ideas / NGL 2025: 3.5

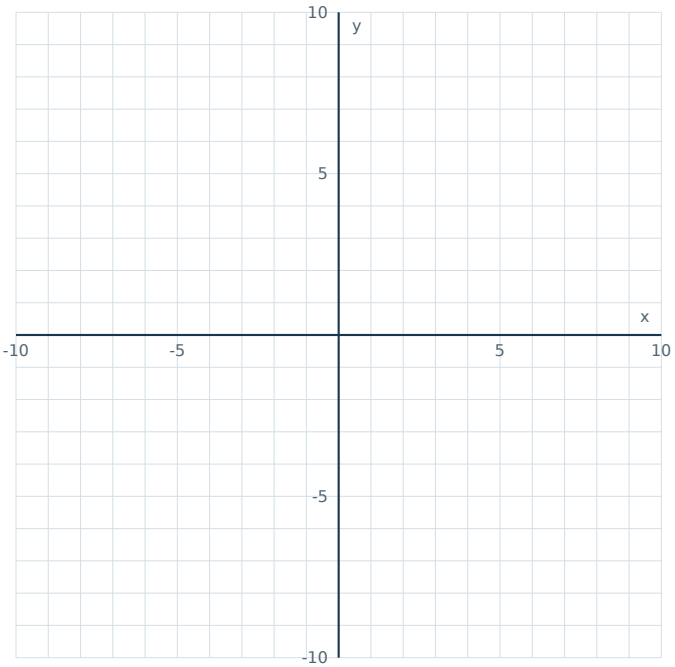
Name: _____ Period: _____

Numeric / equation / coordinate entry

Enter a perpendicular equation

A line passes through (−2, 1) and (4, 4). Enter the equation, in slope-intercept form, of its perpendicular line through (2, −1).

Show your work / Explain your reasoning



Important strategy I want to remember

Motivation: A corrected mistake is evidence of learning.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 1

Standard: G.CO.B.7 | Big Ideas / NGL 2025: 4.4; 5.2

Name: _____ Period: _____

Multi-select

Select congruent parts

A rigid motion maps triangle ABC onto DEF with A → D, B → E, C → F. Select ALL statements that must be true.

A. AB = DE

B. AB = EF

C. ∠C = ∠F

D. ∠A = ∠E

E. BC = EF

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: State the theorem or relationship that supports your reasoning.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 4

Standard: G.SRT.B.5 | Big Ideas / NGL 2025: 8.3–8.4

Name: _____ Period: _____

Classroom extension (not a test item)

Investigate indirect measurement

Extended investigation: How reliably can shadow measurements estimate a tall object's height? Across at least two sessions, collect or obtain real measurements for three pole/shadow or object/shadow pairs on level ground. Record measurement conditions. Develop and justify a similar-triangle model, compare estimates with a known height or a second measurement method, and analyze sources of error. Revise the procedure, test it again, and present a supported conclusion with data. Use this page to plan; attach the investigation record.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Keep exact values until a question asks you to round.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 1

Standard: G.CO.D.12 | Big Ideas / NGL 2025: 1.2; 6.1

Name: _____ Period: _____

Multiple choice

Choose a construction step

Equal-radius arcs centered at A and B intersect at points X and Y on opposite sides of segment AB. Which next step constructs the perpendicular bisector of AB? Select one answer.

A. Draw AX

B. Draw line XY

C. Draw AB

D. Draw a circle centered at X

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Use a sketch to make a geometric relationship visible.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 2

Standard: G.SRT.A.2 | Big Ideas / NGL 2025: 4.5–4.6

Name: _____ Period: _____

Multiple choice

Match a similarity sequence

ABC has A(0,0), B(2,0), C(0,3). DEF has D(4,1), E(8,1), F(4,7). Select the sequence that maps ABC onto DEF.

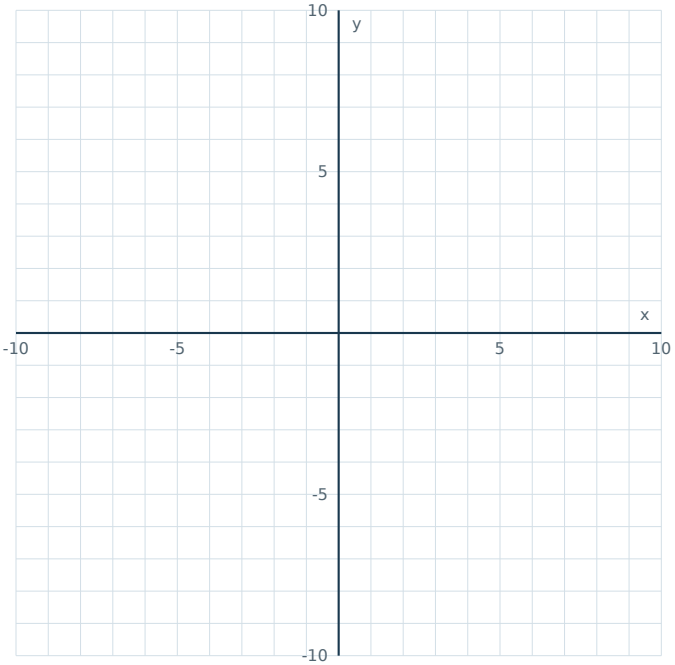
A. Dilate by 2 about the origin; translate by (4,1).

B. Translate by (4,1); dilate by 2 about the origin.

C. Dilate by 1/2 about the origin; translate by (4,1).

D. Reflect across the y-axis; translate by (4,1).

Show your work / Explain your reasoning



Important strategy I want to remember

Motivation: Focus on the next useful step, even when a problem feels difficult.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 2

Standard: G.SRT.C.6 | Big Ideas / NGL 2025: 9.3–9.5

Name: _____ Period: _____

Numeric / equation / coordinate entry

Use a right-triangle ratio

Two right triangles share acute angle θ. In the smaller, the opposite leg is 5 and the hypotenuse is 13. The larger has hypotenuse 39. Enter its opposite leg.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Check that your answer satisfies every condition in the question.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 2

Standard: G.CO.D.12 | Big Ideas / NGL 2025: 1.5

Name: _____ Period: _____

Multiple choice

Order a construction

An angle is copied onto ray PQ. Step 1: draw an arc centered at the original vertex crossing both sides. Step 2: with the same radius, draw an arc centered at P crossing PQ at R. Which pair correctly gives the next two steps? Select one answer.

A. Draw PR; double the compass width.

B. Transfer the distance between the original arc intersections; draw the ray from P through the transferred point.

C. Bisect the original angle; draw a circle at Q.

D. Measure PQ; draw a perpendicular at Q.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Estimate first so you can judge whether your result is reasonable.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 3

Standard: G.SRT.B.5 | Big Ideas / NGL 2025: 8.2–8.4

Name: _____ Period: _____

Multi-select

Complete a similarity proof

D lies on AB and E lies on AC in triangle ABC, with DE parallel to BC. A proof uses ∠A common to both triangles and ∠ADE = ∠ABC. Select ALL conclusions justified by that information.

A. Triangle ADE is similar to triangle ABC.

B. Triangle ADE is similar to triangle ACB.

C. AD/AB = AE/AC

D. DE/BC = AD/AB

E. Triangle ADE is necessarily congruent to triangle ABC.

Show your work / Explain your reasoning

Important strategy I want to remember

Motivation: Confidence grows through practice, feedback, and another try.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 1

Standard: G.SRT.C.7 | Big Ideas / NGL 2025: 9.5

Name: _____ Period: _____

Numeric / equation / coordinate entry

Use complementary ratios

For an acute angle θ, sin θ = 0.8. Enter cos(90° − θ).

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Compare your final answer with what the question actually asks.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 2

Standard: G.SRT.C.8 | Big Ideas / NGL 2025: 9.4–9.6

Name: _____ Period: _____

Numeric / equation / coordinate entry

Calculate a building height

An instrument 1.5 m above level ground is 24 m horizontally from a building. The roof's angle of elevation is 38°. Enter the building's height to the nearest tenth of a meter.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Read the whole question before choosing a method.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 1

Standard: G.SRT.A.1 | Big Ideas / NGL 2025: 4.5

Name: _____ Period: _____

Numeric / equation / coordinate entry

Find an image distance

A dilation with scale factor 3/4 maps segment AB of length 20 cm to A′B′. Enter the length of A′B′ in centimeters.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Label your diagram with the information you are given.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 1

Standard: G.SRT.C.7 | Big Ideas / NGL 2025: 9.5

Name: _____ Period: _____

Multiple choice

Connect complementary angles

An acute angle θ satisfies sin θ = 0.6. What is cos(90° − θ)? Select one answer.

A. 0.4

B. 0.6

C. 0.8

D. 1.0

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Check whether your answer needs units or square/cubic units.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 4

Standard: G.SRT.A.2 | Big Ideas / NGL 2025: 4.5–4.6; 8.1

Name: _____ Period: _____

Classroom extension (not a test item)

Investigate similarity in design

Classroom extension - DOK 4: Over multiple sessions, investigate whether three versions of a school logo are truly similar. Collect original and resized images, record corresponding measurements, and test ratios and angle preservation. Create one intentionally distorted version as a counterexample. Develop a transformation description for a valid version, critique the limitations of measurement evidence, and revise your resizing procedure. Attach images, data, a justification and the revised result.

Show your work / Explain your reasoning

Important strategy I want to remember

Motivation: A corrected mistake is evidence of learning.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 1

Standard: G.CO.A.1 | Big Ideas / NGL 2025: 1.1; 1.5–1.6

Name: _____ Period: _____

Multiple choice

Use a precise definition

Which statement precisely describes the perpendicular bisector of a segment? Select one answer.

A. Any line that crosses the segment

B. Any line through an endpoint at 90°

C. A line through the midpoint at 90° to the segment

D. Any line parallel to the segment

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: State the theorem or relationship that supports your reasoning.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 3

Standard: G.SRT.A.1 | Big Ideas / NGL 2025: 4.5

Name: _____ Period: _____

Table match (paper adaptation)

Evaluate dilation claims

For each statement, enter T (always true) or F (not always true). A dilation has center O and positive scale factor $k \neq 1$.

1. A line through O maps onto itself.
2. A line not through O maps to a parallel line.
3. Every segment keeps its original length.
4. Every angle keeps its original measure.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Keep exact values until a question asks you to round.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 1

Standard: G.CO.A.3 | Big Ideas / NGL 2025: 4.2–4.3

Name: _____ Period: _____

Multiple choice

Describe polygon symmetry

How many lines of reflection symmetry does a regular hexagon have? Select one answer.

A. 2

B. 3

C. 6

D. 12

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Use a sketch to make a geometric relationship visible.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 2

Standard: G.SRT.C.8 | Big Ideas / NGL 2025: 9.1; 9.4–9.6

Name: _____ Period: _____

Numeric / equation / coordinate entry

Find a ladder angle

A 13-foot ladder rests against a vertical wall on level ground. Its base is 5 feet from the wall. Enter the angle the ladder makes with the ground, to the nearest degree.

Show your work / Explain your reasoning

Important strategy I want to remember

Motivation: Focus on the next useful step, even when a problem feels difficult.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 2

Standard: G.CO.A.5 | Big Ideas / NGL 2025: 4.1–4.3

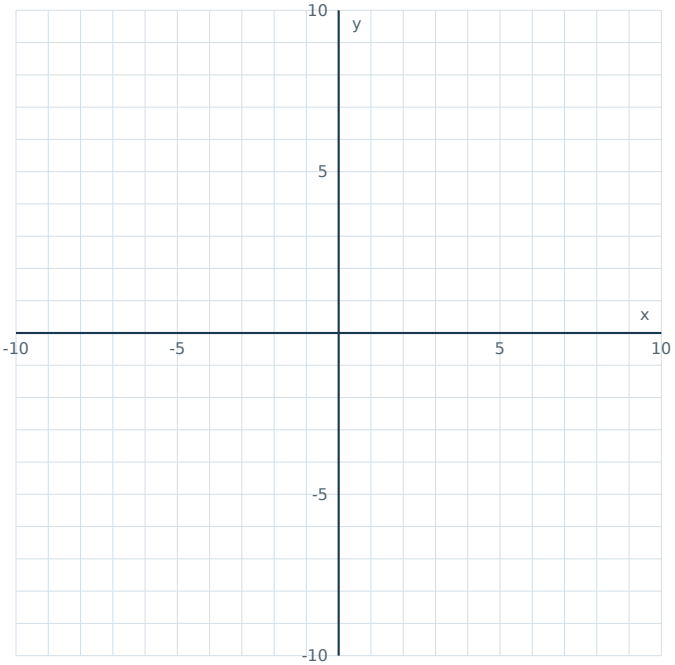
Name: _____ Period: _____

Graphing (paper adaptation)

Compare motion order

Start with P(1,2). Sequence A reflects across the y-axis, then translates 3 units right. Sequence B translates 3 units right, then reflects across the y-axis. Enter the final point for each sequence.

Show your work / Explain your reasoning



Important strategy I want to remember

Strategy: Check that your answer satisfies every condition in the question.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 1

Standard: G.C.A.2 | Big Ideas / NGL 2025: 10.2; 10.4

Name: _____ Period: _____

Numeric / equation / coordinate entry

Relate central and inscribed angles

An inscribed angle intercepts an arc of 104°. What is the inscribed angle’s measure?

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Estimate first so you can judge whether your result is reasonable.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 2

Standard: G.CO.D.12 | Big Ideas / NGL 2025: 3.2; 1.5

Name: _____ Period: _____

Multiple choice

Complete a parallel construction

A transversal meets line ℓ and passes through P, a point off ℓ. To construct a line through P parallel to ℓ by copying an angle, which angle relationship should the construction create? Select one answer.

A. Congruent corresponding angles

B. Complementary corresponding angles

C. Congruent same-side interior angles in every case

D. A right angle with the transversal in every case

Show your work / Explain your reasoning

Important strategy I want to remember

Motivation: Confidence grows through practice, feedback, and another try.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 1

Standard: G.SRT.C.7 | Big Ideas / NGL 2025: 9.5

Name: _____ Period: _____

Numeric / equation / coordinate entry

Recall a complementary ratio

For an acute angle θ, cos θ = 0.7. Enter sin(90° − θ).

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Compare your final answer with what the question actually asks.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 3

Standard: G.SRT.B.5 | Big Ideas / NGL 2025: 8.1–8.3

Name: _____ Period: _____

Multi-select

Compare possible triangles

A triangular design has sides 4, 6, and 8. Select ALL conclusions justified when it is enlarged to a similar design whose shortest side is 10.

A. The longest side is 20.

B. The perimeter is 45.

C. The two designs are congruent.

D. The new area is 6.25 times the original area.

E. The new area is 2.5 times the original area.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Read the whole question before choosing a method.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 3

Standard: G.SRT.A.2 | Big Ideas / NGL 2025: 4.5–4.6; 8.1

Name: _____ Period: _____

Multi-select

Critique similarity claims

A student says that doubling two side lengths guarantees similar triangles. Select ALL statements that correctly evaluate this claim.

A. Two proportional sides alone always establish similarity.

B. The included angle must also match to use SAS similarity.

C. Similar triangles must have the same area.

D. Equal corresponding angles in two triangles establish similarity.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Label your diagram with the information you are given.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 1

Standard: G.C.A.2 | Big Ideas / NGL 2025: 10.1

Name: _____ Period: _____

Multiple choice

Use a tangent-radius relationship

PT is tangent to a circle at T, and O is the center. What is the measure of ∠OTP? Select one answer.

A. 0°

B. 45°

C. 90°

D. 180°

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Check whether your answer needs units or square/cubic units.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 2

Standard: G.SRT.C.6 | Big Ideas / NGL 2025: 9.3–9.4

Name: _____ Period: _____

Numeric / equation / coordinate entry

Connect similarity and tangent

Two right triangles share an acute angle θ. Their opposite/adjacent leg pairs are (6, 8) and (9, 12). Explain why tan θ is the same in both triangles. A third similar triangle has adjacent leg 20. Find its opposite leg.

Show your work / Explain your reasoning

Important strategy I want to remember

Motivation: A corrected mistake is evidence of learning.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 1

Standard: G.CO.D.13 | Big Ideas / NGL 2025: 10.4; construction task

Name: _____ Period: _____

Multiple choice

Recall an inscribed-hexagon construction

A regular hexagon is inscribed in a circle. When using a compass to step off its six vertices, what compass width should be used? Select one answer.

A. Half the radius

B. The radius

C. The diameter

D. Twice the diameter

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: State the theorem or relationship that supports your reasoning.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 1

Standard: G.SRT.A.1 | Big Ideas / NGL 2025: 4.5

Name: _____ Period: _____

Multiple choice

Recall a dilation property

A dilation has scale factor 2 and center O. A line does not pass through O. Its image is which of the following? Select one answer.

A. A perpendicular line

B. A parallel line

C. A circle

D. The point O

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Keep exact values until a question asks you to round.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 1

Standard: G.C.B.5 | Big Ideas / NGL 2025: 11.1

Name: _____ Period: _____

Numeric / equation / coordinate entry

Find arc length

A circle has radius 9 cm. Find the exact length of an arc with central angle 80°. Use $s = (\theta/360°)\cdot 2\pi r$.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Use a sketch to make a geometric relationship visible.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 4

Standard: G.SRT.C.8 | Big Ideas / NGL 2025: 9.4–9.6

Name: _____ Period: _____

Classroom extension (not a test item)

Investigate trigonometric measurement

Classroom extension - DOK 4: Estimate the height of a real building or tree over multiple sessions. Record measured distances, instrument height and angles from at least two locations. Build and solve a trigonometric model for each location. Compare estimates with a second method or reference value, examine sensitivity to measurement error, and revise and retest your procedure. Submit a scaled diagram, data, calculations, error analysis and a supported final estimate.

Show your work / Explain your reasoning

Important strategy I want to remember

Motivation: Focus on the next useful step, even when a problem feels difficult.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 1

Standard: G.SRT.C.6 | Big Ideas / NGL 2025: 9.4

Name: _____ Period: _____

Multiple choice

Identify a tangent ratio

In a right triangle, the leg opposite acute angle θ is 9 and the adjacent leg is 12. Select tan θ.

A. 4/3

B. 3/4

C. 3/5

D. 4/5

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Check that your answer satisfies every condition in the question.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 1

Standard: G.SRT.B.5 | Big Ideas / NGL 2025: 8.1; 8.4

Name: _____ Period: _____

Numeric / equation / coordinate entry

Use proportional side lengths

Two similar triangles have corresponding side lengths 6 and 15. A second side of the smaller triangle is 8. Enter the matching larger side length.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Estimate first so you can judge whether your result is reasonable.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 1

Standard: G.SRT.A.1 | Big Ideas / NGL 2025: 4.5

Name: _____ Period: _____

Numeric / equation / coordinate entry

Calculate a scale factor

A dilation maps a segment of length 8 to a segment of length 20. Enter the positive scale factor.

Show your work / Explain your reasoning

Important strategy I want to remember

Motivation: Confidence grows through practice, feedback, and another try.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 1

Standard: G.GMD.A.3 | Big Ideas / NGL 2025: 12.4

Name: _____ Period: _____

Multiple choice

Find a missing dimension

A cone has volume 150π cm³ and radius 5 cm. Use V = (1/3)πr²h to find its height. Select one answer.

A. 6 cm

B. 18 cm

C. 30 cm

D. 45 cm

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Compare your final answer with what the question actually asks.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 2

Standard: G.SRT.B.5 | Big Ideas / NGL 2025: 8.2; 8.4

Name: _____ Period: _____

Numeric / equation / coordinate entry

Use an indirect-measurement model

A student uses a mirror on level ground to view the top of a pole. The student’s eye height is 1.6 m. The horizontal distances from the mirror to the student and to the pole are 2 m and 11 m. The viewing triangles are similar. Enter the pole’s height in meters.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Read the whole question before choosing a method.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 4

Standard: G.SRT.C.8 | Big Ideas / NGL 2025: 9.4–9.6

Name: _____ Period: _____

Classroom extension (not a test item)

Design and test an accessible ramp

Classroom extension - DOK 4: Investigate a ramp design for a teacher-approved site. Gather the rise, available ground distance and a supplied maximum angle or slope constraint. Propose three feasible or infeasible plans and justify their classification with right-triangle calculations. Build scale models, obtain feedback on practicality, and revise one plan. Present measurements, constraints, trigonometric calculations, tested models and a supported recommendation. Do not treat the classroom constraint as a legal accessibility standard.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Label your diagram with the information you are given.

Similarity, Right Triangles & Trigonometry | DOK 1

Standard: G.SRT.C.6 | Big Ideas / NGL 2025: 9.5

Name: _____ Period: _____

Multiple choice

Identify a cosine ratio

In a right triangle, the leg adjacent to angle θ is 12 and the hypotenuse is 13. Select cos θ.

A. 5/13

B. 12/13

C. 12/5

D. 13/12

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Check whether your answer needs units or square/cubic units.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 1

Standard: G.GPE.B.7 | Big Ideas / NGL 2025: 1.3–1.4

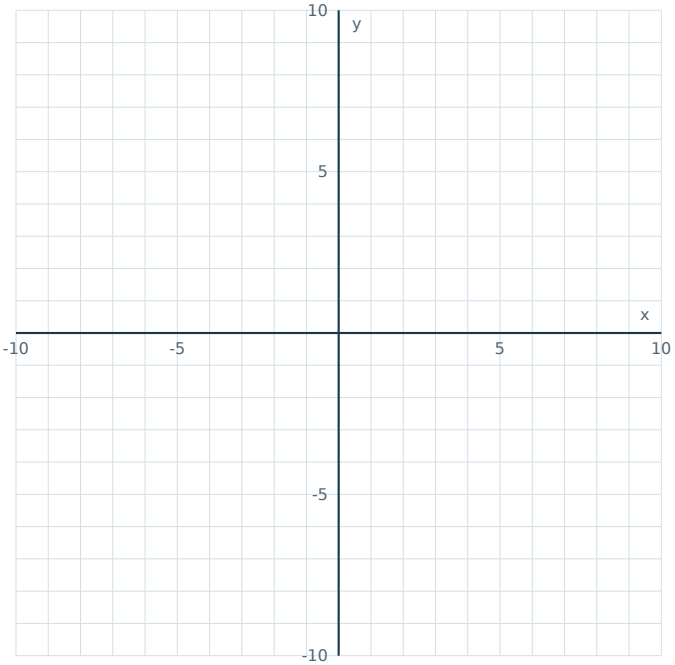
Name: _____ Period: _____

Numeric / equation / coordinate entry

Use coordinates to find area

Rectangle ABCD has vertices A(−2, 1), B(4, 1), C(4, 5), D(−2, 5). Find its area.

Show your work / Explain your reasoning



Important strategy I want to remember

Motivation: A corrected mistake is evidence of learning.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 1

Standard: G.SRT.C.6 | Big Ideas / NGL 2025: 9.3–9.5

Name: _____ Period: _____

Numeric / equation / coordinate entry

Use similar right triangles

A right triangle has opposite leg 3 and hypotenuse 5 for an acute angle θ. A similar right triangle has hypotenuse 20. Enter its opposite leg.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: State the theorem or relationship that supports your reasoning.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 1

Standard: G.MG.A.1 | Big Ideas / NGL 2025: 12.6

Name: _____ Period: _____

Multiple choice

Identify a practical model

A grain silo has a cylindrical body topped by a cone. Which geometric model represents the silo? Select one answer.

A. A cylinder only

B. A cylinder and a cone

C. A sphere and a cone

D. A rectangular prism

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Keep exact values until a question asks you to round.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 1

Standard: G.SRT.C.7 | Big Ideas / NGL 2025: 9.5

Name: _____ Period: _____

Multiple choice

Recognize complementary functions

Which expression equals sin 35°? Select one answer.

A. cos 35°

B. sin 55°

C. cos 55°

D. tan 55°

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Use a sketch to make a geometric relationship visible.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 2

Standard: G.SRT.A.1 | Big Ideas / NGL 2025: 4.5

Name: _____ Period: _____

Numeric / equation / coordinate entry

Compare scale factors

A dilation with positive scale factor maps AB = 6 to A′B′ = 15 and BC = 8 to B′C′ = x. Enter the scale factor k and the value of x.

Show your work / Explain your reasoning

Important strategy I want to remember

Motivation: Focus on the next useful step, even when a problem feels difficult.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 1

Standard: G.MG.A.2 | Big Ideas / NGL 2025: 12.6

Name: _____ Period: _____

Numeric / equation / coordinate entry

Combine volume and density

A solid has volume 20 cm³ and density 7.8 g/cm³. Find its mass using mass = density × volume.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Check that your answer satisfies every condition in the question.

Day: _____ | Date: _____

Similarity, Right Triangles & Trigonometry | DOK 4

Standard: G.SRT.B.5 | Big Ideas / NGL 2025: 8.1; 8.4

Name: _____ Period: _____

Classroom extension (not a test item)

Investigate a scaled prototype

Classroom extension - DOK 4: Design a scale model of a real triangular structure. Obtain measurements, choose and justify a scale, and build two prototypes using different scales or materials. Predict dimensions from similarity, test actual dimensions and angle agreement, and examine construction errors. Revise one prototype and retest it. Submit data, proportional calculations, a similarity justification, prototype images and an evidence-based explanation of the revision.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Estimate first so you can judge whether your result is reasonable.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 3

Standard: G.GMD.A.1 | Big Ideas / NGL 2025: 11.2

Name: _____ Period: _____

Multiple choice

Complete an area argument

Many narrow equal sectors of a circle of radius r are rearranged alternately into a shape approaching a rectangle. Select the row that correctly gives the limiting base, height, and area.

A. Base $2\pi r$; height r; area $2\pi r^2$

B. Base πr; height 2r; area $2\pi r^2$

C. Base πr; height r; area πr^2

D. Base r; height r; area r^2

Show your work / Explain your reasoning

Important strategy I want to remember

Motivation: Confidence grows through practice, feedback, and another try.

Day: _____ | Date: _____

Congruence, Measurement & Circles | DOK 1

Standard: G.GMD.A.3 | Big Ideas / NGL 2025: 12.2; 12.4–12.5

Name: _____ Period: _____

Numeric / equation / coordinate entry

Calculate cylinder volume

A cylinder has radius 3 cm and height 8 cm. Find its exact volume using $V = \pi r^2 h$.

Show your work / Explain your reasoning

Important strategy I want to remember

Strategy: Compare your final answer with what the question actually asks.

Sources and standards

2023 NJSLS Mathematics: Geometry

https://www.nj.gov/education/standards/math/2023/geometry.shtml

NJSLA-A Geometry reporting categories

https://www.nj.gov/education/assessment/adaptive/mathblueprints.shtml

NJGPA-A Mathematics Blueprint

https://www.nj.gov/education/assessment/adaptive/gpablueprints.shtml

NJGPA-A online practice: official answer and standard alignment key

Open the official PDF on the NJ Assessments Portal

NJGPA-A paper-based practice test

Open the official PDF on the NJ Assessments Portal

NJDOE adaptive assessment FAQs: formats and calculator guidance

https://www.nj.gov/education/assessment/adaptive/faq.shtml

Supplied district documents

Geometry_Updated_Scope_2023_NJSLS_NGL_2025 (1).xlsx: Q1-Q4 Updated tabs; lesson order, topic coverage and textbook sections.

NJGPA_NJSLA PLD Performance (1).xlsx: NJGPA tab; Geometry descriptions and relative strengths/weaknesses. The HSGeometry tab is not the target of this revised packet.

2026-2027DistrictCalendar (1).pdf: Board-approved July 21, 2026; student days and closures Undated Practice. March 9 and emergency-closing adjustments are subject to change.

Standards practiced in this packet

NJGPA file: G.SRT.A.1-2; G.SRT.B.5; G.SRT.C.6-8; G.C.A.2; G.CO.A.1, 3, 5; G.CO.D.12-13; G.GMD.A.1, 3.

Additional released-practice skills: G.CO.B.7; G.GPE.B.5, 7; G.C.B.5; G.MG.A.1-2. MP1-MP8 support classroom reasoning and investigation.

Blueprint context

NJGPA-A Mathematics lists 40 total items, including 16-20 Geometry items: 10-12 in Similarity, Right Triangles and Trigonometry, and 6-8 in the aggregate Congruence, Measurement and Circles category. The sample items illustrate formats; they do not establish test-wide DOK percentages.

Questions are original and aligned to official NJGPA-A practice skills and formats; they are not released NJDOE items. DOK 4 tasks are classroom extensions. Online practice sequence numbers differ from paper numbering. Source review: October 28, 2026.

Strategy: Read the whole question before choosing a method.