Classifying a loading bay

Coordinate proof | coordinates

Instructional alignment G-GPE.B

Targets selected reasoning within the named code. Review the full standard and any assessment boundary before making a mastery or PLD claim.

1. AB and CD have slope 0; AD and BC have slope 2. Both pairs of opposite sides are parallel.

2. AB and AD are not perpendicular, so it is not a rectangle. Their direction-vector dot product is 12, not zero.

3. AB=6 and AD=sqrt(20); adjacent sides differ, so it is not a rhombus.

One local criterion per numbered answer. Accept equivalent valid reasoning. Award the criterion only when the response supplies its requested evidence.

Interpret an error

Treating one supported classification as proof of every classification. Check the actual response and ask a diagnostic question before assigning this interpretation.

Independent transfer

Move C and D two units left and analyze which conclusions change.

Related public evidence

GEO_2026_08_35 | public question

Official mapping for that example

GEO_2026_08_16 | public question

Official mapping for that example

Original AI-assisted teaching stimulus; all numerical observations and named classroom settings are constructed

One observation cannot prove congruence

Congruence and argument | counterexample

Instructional alignment G-CO.B; G-CO.C

Targets selected reasoning within the named code. Review the full standard and any assessment boundary before making a mastery or PLD claim.

1. No. The included angles differ, so SAS does not apply and these triangles have different included angles.

2. Make the included angle equal in both triangles while matching the corresponding 5 and 7 sides.

3. Rigid motions preserve angle measures and lengths, so an included-angle mismatch cannot be removed.

One local criterion per numbered answer. Accept equivalent valid reasoning. Award the criterion only when the response supplies its requested evidence.

Interpret an error

Using any two equal sides and any angle as SAS. Check the actual response and ask a diagnostic question before assigning this interpretation.

Independent transfer

Use a third equal side instead of the included angle and explain the different criterion.

Related public evidence

GEO_2026_08_33 | public question

Official mapping for that example

GEO_2026_08_25 | public question

Official mapping for that example

Original AI-assisted teaching stimulus; all numerical observations and named classroom settings are constructed

Two similar ramps

Similarity and trigonometry | scaled right triangles

Instructional alignment G-SRT.A; G-SRT.C

Targets selected reasoning within the named code. Review the full standard and any assessment boundary before making a mastery or PLD claim.

1. The scale factor is 1.5, so B runs 7.2 m.

2. tan(theta)=0.6/4.8=0.125, giving about 7 degrees.

3. A criterion or maximum allowable slope must be supplied. Similarity preserves the angle but does not establish compliance.

One local criterion per numbered answer. Accept equivalent valid reasoning. Award the criterion only when the response supplies its requested evidence.

Interpret an error

Using a scale factor for length as a change in angle. Check the actual response and ask a diagnostic question before assigning this interpretation.

Independent transfer

Compare a third ramp rising 0.9 m over 6 m using its ratio instead of a drawing.

Related public evidence

GEO_2026_08_34 | public question

Official mapping for that example

GEO_2026_08_24 | public question

Official mapping for that example

Original AI-assisted teaching stimulus; all numerical observations and named classroom settings are constructed

Sector signs

Circles and measurement | arc and area

Instructional alignment G-C.B

Targets selected reasoning within the named code. Review the full standard and any assessment boundary before making a mastery or PLD claim.

1. Arc lengths are pi cm and 3pi cm.

2. Areas are 1.5pi and 13.5pi square cm.

3. Length scales by 3 and area by 9. The central angle is unchanged.

One local criterion per numbered answer. Accept equivalent valid reasoning. Award the criterion only when the response supplies its requested evidence.

Interpret an error

Scaling area by the same factor as a radius. Check the actual response and ask a diagnostic question before assigning this interpretation.

Independent transfer

Hold radius fixed and double the sector angle. Compare both scaling effects.

Related public evidence

GEO_2026_08_31 | public question

Official mapping for that example

GEO_2026_06_21 | public question

Official mapping for that example

Original AI-assisted teaching stimulus; all numerical observations and named classroom settings are constructed

An open cylinder

Volume and modeling | container decision

Instructional alignment G-GMD.A; G-MG.A

Targets selected reasoning within the named code. Review the full standard and any assessment boundary before making a mastery or PLD claim.

1. Both volumes are 72pi cubic cm.

2. The first uses 57pi square cm; the second uses 52pi, so the second uses less material.

3. Thickness, waste, lid needs, seam allowance or handling could alter the decision.

One local criterion per numbered answer. Accept equivalent valid reasoning. Award the criterion only when the response supplies its requested evidence.

Interpret an error

Inferring equal surface area from equal volume. Check the actual response and ask a diagnostic question before assigning this interpretation.

Independent transfer

Add a lid to both and recalculate the preferred design.

Related public evidence

GEO_2026_08_32 | public question

Official mapping for that example

GEO_2026_08_26 | public question

Official mapping for that example

Original AI-assisted teaching stimulus; all numerical observations and named classroom settings are constructed

Which transformations undo each other?

Transformations | coordinate rule

Instructional alignment G-CO.A

Targets selected reasoning within the named code. Review the full standard and any assessment boundary before making a mastery or PLD claim.

1. The composite is (x+4,-y+2).

2. P maps first to (3,1), then to (3,-1).

3. Reflection then translation gives (x+4,-y-2), so P ends at (3,-5). The results differ.

One local criterion per numbered answer. Accept equivalent valid reasoning. Award the criterion only when the response supplies its requested evidence.

Interpret an error

Treating reflection as changing both coordinate signs. Check the actual response and ask a diagnostic question before assigning this interpretation.

Independent transfer

Replace reflection with a 180-degree rotation and compare the two orders.

Related public evidence

GEO_2026_08_13 | public question

Official mapping for that example

GEO_2026_08_8 | public question

Official mapping for that example

Original AI-assisted teaching stimulus; all numerical observations and named classroom settings are constructed