Digital SAT Math

Geometry — Practice Set I

Area, Volume and Lines, Angles, Triangles: Easy to Medium

6 Questions | Full Solutions | Mistake-Pattern Analysis

Question 1 [EASY]

A rectangle has length 8 and width 5. What is its area?

(Student-produced response)

Algebraic: Area = length × width = 8 × 5 = 40.

Desmos: Not useful, this is a direct formula substitution with no equation to graph.

Faster path: Algebraic, always, for a direct area formula.

Mistake: Concept gap: student adds the dimensions instead of multiplying, computing 13 instead of 40.

Question 2 [EASY]

A triangle has a base of 10 and a height of 6. What is its area?

(Student-produced response)

Algebraic: Area = (1/2) × base × height = (1/2)(10)(6) = 30.

Desmos: Not useful, this is a direct formula substitution.

Faster path: Algebraic, always.

Mistake: Concept gap: student forgets the factor of 1/2, computing 60 instead of 30.

Question 3 [MEDIUM]

A rectangular prism has dimensions 4 by 5 by 6. What is its volume?

(Student-produced response)

Algebraic: Volume = length × width × height = 4 × 5 × 6 = 120.

Desmos: Not useful, this is a direct formula substitution.

Faster path: Algebraic, always.

Mistake: Concept gap: student adds the three dimensions and multiplies by a wrong factor, or otherwise treats this as a surface-area-style calculation instead of a single product.

Question 4 [EASY]

Two angles are supplementary. If one angle measures 65°, what is the measure of the other angle?

(Student-produced response)

Algebraic: Supplementary angles sum to 180°, so the other angle is 180 − 65 = 115°.

Desmos: Not useful, this is a direct angle-relationship calculation.

Faster path: Algebraic, always.

Mistake: Concept gap: student subtracts from 90° instead of 180°, confusing supplementary with complementary angles.

Question 5 [EASY]

Two angles are complementary. If one angle measures 35°, what is the measure of the other angle?

(Student-produced response)

Algebraic: Complementary angles sum to 90°, so the other angle is 90 − 35 = 55°.

Desmos: Not useful, this is a direct angle-relationship calculation.

Faster path: Algebraic, always.

Mistake: Concept gap: student subtracts from 180° instead of 90°, confusing complementary with supplementary angles.

Question 6 [MEDIUM]

In a triangle, two of the angles measure 50° and 60°. What is the measure of the third angle?

(Student-produced response)

Algebraic: The angles of a triangle sum to 180°, so the third angle is 180 − 50 − 60 = 70°.

Desmos: Not useful, this is a direct angle-sum calculation.

Faster path: Algebraic, always.

Mistake: Concept gap: student subtracts only one of the two given angles from 180°, forgetting to account for both.