ALABAMA GEOMETRY WITH DATA ANALYSIS · UNIT 1 · 25 QUESTIONS

Congruence and Similarity — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **Two triangles have all three pairs of corresponding sides equal. The congruence criterion that applies is**



A SSS

B SAS

C ASA

D AAS

Understand It with Pulse

Flag a mistake

2 **Two triangles have two pairs of corresponding sides equal, and the included angles are equal. The congruence criterion is**

A ASA

B SAS

C SSS

D AAS

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3 **Two triangles have two pairs of corresponding angles equal, and the included sides are equal. The congruence criterion is**

A SSS

B AAS

C ASA

D HL

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4 **Two right triangles have equal hypotenuses and one pair of equal legs. The congruence criterion that applies is**

A SSS

B SAS

C ASA

D HL

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5 **Triangle ABC is congruent to triangle DEF. Angle A measures 40° and angle B measures 70°. Angle F measures**



A 40°

B 110°

C 70°

D 50°

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6 **Triangle ABC is similar to triangle DEF. Angle A measures 35° and angle B measures 75°. Angle E measures**

- A 75°
- B 35°
- C 70°
- D 110°

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7 **A side of length 4 in one figure maps to a side of length 12 under a dilation. The scale factor is**

- A 4
- B 3
- C 12
- D $\frac{1}{3}$

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8 **Two similar triangles have a linear scale factor of 2:5. The smaller triangle has perimeter 20. The larger perimeter is**



A 8

B 20

C 50

D 100

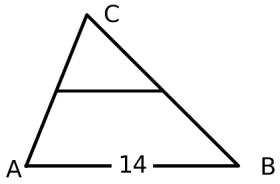
Understand It with Pulse | Flag a mistake

9 **Two similar figures have a linear scale factor of 1:4. The smaller figure has area 5. The larger area is**

- **A** 20
- **B** 9
- **C** 125
- **D** 80

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10 **The triangle shown has a midsegment drawn parallel to the base. The base is labelled in the diagram. The length of the midsegment is**



- **A** 7
- **B** 14
- **C** 28
- **D** 3.5

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11 **A line parallel to one side of a triangle divides another side into segments of lengths 3 and 6, and divides the third side into segments of lengths 4 and x. The value of x is**

- A 6
- B 8
- C 12
- D 2

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12 **Two similar triangles have shortest sides 6 and 9. The longest side of the smaller triangle is 10. The longest side of the larger triangle is _____**

ANSWER

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13 **Under a dilation centered at the origin with scale factor 2, the point (2, 3) maps to**



A (1, 1.5)

B (2, 6)

C (4, 6)

D (4, 3)

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14 **The point (3, -4) reflected across the x -axis maps to**



A (-3, -4)

B (-3, 4)

C (4, 3)

D (3, 4)

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15 **Under the translation (x + 3, y - 2), the point (-1, 5) maps to**

A (2, 3)

B (-4, 7)

C (2, 7)

D (-4, 3)

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16 **The point (4, 1) rotated 90° counterclockwise about the origin maps to**



A (1, -4)

B (-1, 4)

C (-4, 1)

D (4, -1)

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17 **An isosceles triangle has a vertex angle of 100°. Each base angle measures**

- A 80°
- B 50°
- C 40°
- D 100°

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18 **An exterior angle of a triangle measures 130°. One remote interior angle measures 50°. The other remote interior angle measures**

- A 50°
- B 130°
- C 180°
- D 80°

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19 **Two similar triangles have corresponding sides 9 and 12. Another side of the smaller triangle is 15. The corresponding side is**

- A 20
- B 11.25
- C 15
- D 27

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20 **Two similar triangles have areas 16 and 81. A side of the smaller triangle is 12. The corresponding side of the larger triangle is ____**

ANSWER _____

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21 **A triangle has two sides of lengths 5 and 7. The greatest possible whole number length of the third side is**

A 12

B 11

C 13

D 2

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22 **One triangle has sides 3, 4, and 5. Another has sides 6, 8, and 10. The triangles are**

A not similar

B similar by AA

C similar by SSS

D similar by SAS

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23 **A triangle has angles measuring 55° and 65°. The third angle measures**

- A 120°
- B 60°
- C 55°
- D 65°

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24 **Which transformation does NOT always map a figure to a congruent figure?**

- A translation
- B reflection
- C rotation
- D dilation with scale factor 3

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25 **A figure has perimeter 24. Under a dilation with scale factor 1.5, the perimeter of the image is ____**

ANSWER

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ANSWER KEY

1. A
2. B
3. C
4. D
5. C
6. A
7. B
8. C
9. D
10. A
11. B
12. 15
13. C
14. D
15. A
16. B
17. C
18. D
19. A
20. 27
21. B
22. C
23. B
24. D
25. 36

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