TEXAS GEOMETRY · UNIT 1

Congruence and Similarity — Practice Test

Texas Geometry • 25 questions

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

Understand It with Pulse | Flag a mistake

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

Understand It with Pulse | Flag a mistake

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

Understand It with Pulse | Flag a mistake

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°

Understand It with Pulse | Flag a mistake

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°

Understand It with Pulse | Flag a mistake

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 $\frac{1}{3}$

Understand It with Pulse | Flag a mistake

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

Understand It with Pulse | Flag a mistake

10 **In a triangle, a midsegment is parallel to a base of length 14. The length of the midsegment is**

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

Understand It with Pulse | Flag a mistake

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

Understand It with Pulse | Flag a mistake

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

Understand It with Pulse | Flag a mistake

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)

Understand It with Pulse | Flag a mistake

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

- A (-3, -4)
- B (-3, 4)
- C (4, 3)
- D (3, 4)

Understand It with Pulse | Flag a mistake

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)

Understand It with Pulse | Flag a mistake

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)

Understand It with Pulse | Flag a mistake

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

A 80°

B 50°

C 40°

D 100°

Understand It with Pulse | Flag a mistake

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°

Understand It with Pulse | Flag a mistake

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

Understand It with Pulse | Flag a mistake

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 _____

Understand It with Pulse | Flag a mistake

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

Understand It with Pulse | Flag a mistake

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

Understand It with Pulse | Flag a mistake

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

- A 120°
- B 60°
- C 55°
- D 65°

Understand It with Pulse | Flag a mistake

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

Understand It with Pulse | Flag a mistake

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

ANSWER _____

Understand It with Pulse | Flag a mistake

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

© 2026 Brett Robbins. All Rights Reserved.