GEOMETRY · NEBRASKA

Geometry

Practice Test

Unit 1: Congruence and Similarity

25 Questions

Original practice test based on the Nebraska curriculum. Work through each question, then check your answers at the end.

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.

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Question 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

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Question 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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Question 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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Question 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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Question 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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Question 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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Question 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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Question 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

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Question 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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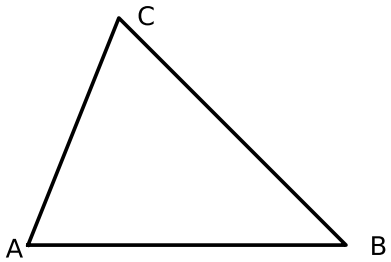

Question 10

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

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Question 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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Question 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 ____

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Question 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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Question 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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Question 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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Question 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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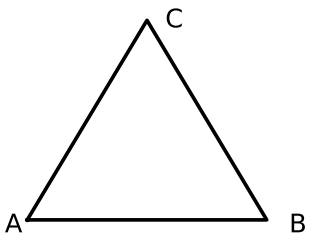

Question 17

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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Question 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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Question 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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Question 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 ____

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Question 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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Question 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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Question 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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Question 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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Question 25

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

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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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