ILLINOIS GEOMETRY · 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

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°

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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

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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 **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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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

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)

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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)

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)

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

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