ALASKA 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 two pairs of corresponding sides equal, and the angles between those sides are equal. The congruence criterion is**

- A SSS
- B SAS
- C ASA
- D AAS

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2 **Two triangles have two pairs of corresponding angles equal, and a pair of corresponding nonincluded sides equal. The congruence criterion is**

- A ASA
- B SSS
- C AAS
- D HL

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3 **Triangle ABC is congruent to triangle DEF. Angle A measures 50° and angle B measures 60°. Angle F measures**

- A 50°
- B 60°
- C 70°
- D 110°

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4 **Two similar triangles have a linear scale factor of 3:5. The smaller triangle has perimeter 30. The larger perimeter is**



A 18

B 90

C 10

D 50

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5 **Two similar figures have a linear scale factor of 1:3. The smaller figure has area 7. The larger area is**

A 21

B 28

C 7

D 63

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6 **Under a dilation centered at the origin with scale factor 3, the point (-2, 5) maps to**

A (6, 15)

B (-6, 15)

C (-2, 15)

D (-6, 5)

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7 **The point (5, -3) reflected across the y -axis maps to**

A (-5, 3)

B (5, 3)

C (-5, -3)

D (5, -3)

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8 **The point (2, 5) rotated 90° clockwise about the origin maps to**



A (-5, 2)

B (5, -2)

C (-2, 5)

D (2, -5)

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9 **Under the translation (x - 4, y + 3), the point (7, -2) maps to**

- A (11, 1)
- B (3, 1)
- C (3, -5)
- D (11, -5)

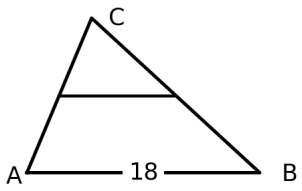
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10 **The point (-3, 4) rotated 180° about the origin maps to**

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

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11 **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 9

B 18

C 36

D 4.5

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12 **A line parallel to one side of a triangle divides another side into segments of lengths 4 and 8, and divides the third side into segments of lengths 5 and x. The value of x is**

- A 2.5
- B 20
- C 6
- D 10

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13 **Two similar triangles have corresponding sides 5 and 15. Another side of the smaller triangle is 8. The corresponding side is**

- A 24
- B 16
- C 40
- D 10

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14 **Two similar triangles have shortest sides 4 and 12. The longest side of the smaller triangle is 9. The longest side of the larger triangle is _____**

ANSWER

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15 **An isosceles triangle has a vertex angle of 80°. Each base angle measures**

A 100°

B 50°

C 80°

D 40°

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16 **An exterior angle of a triangle measures 145°. One remote interior angle measures 65°. The other remote interior angle measures**

A 145°

B 65°

C 35°

D 80°

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17 **A triangle has two sides of lengths 6 and 10. The greatest possible whole number length of the third side is**



A 15

B 16

C 17

D 4

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18 **A triangle has two sides of lengths 5 and 12. Which length could be the third side?**



A 6

B 7

C 15

D 17

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19 **A triangle has angles measuring 48° and 72°. The third angle measures**

A 120°

B 60°

C 48°

D 72°

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20 **One triangle has angles 62° and 81°. Another triangle has angles 62° and 37°. The triangles are similar by**

A not similar

B SSS

C AA

D SAS

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21 **One triangle has sides 4, 6, and 8. Another has sides 6, 9, and 12. The triangles are**

A similar by SAS

B similar by SSS

C not similar

D similar by AA

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22 **One triangle has sides 6 and 8 with included angle 50°. Another has sides 9 and 12 with included angle 50°. The triangles are similar by**

A AA

B SSS

C SAS

D not similar

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23 **Two similar triangles have areas 25 and 100. A side of the smaller triangle is 10. The corresponding side of the larger triangle is ____**

ANSWER _____

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24 **A figure has perimeter 36. Under a dilation with scale factor 0.5, the perimeter of the image is ____**

ANSWER _____

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

- A translation
- B rotation
- C dilation with scale factor 0.25
- D reflection

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ANSWER KEY

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

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