Similar triangles: AA, SSS and SAS tests worksheet – Grade 8

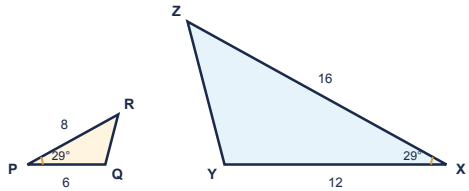
Grade 8 · Mixed level · 20 questions · **Version X3964**

Name: _____ Date: _____ Score: ___ / 20

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1. Which test shows these triangles are similar?



A. SAS **B.** SSS **C.** Not similar **D.** AA

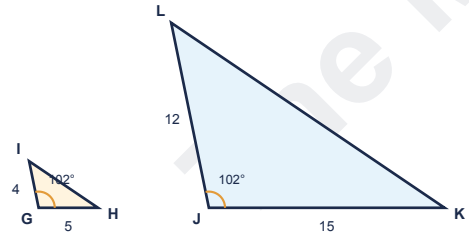
2. Triangle P has angles 70°, 38° and 72°. Triangle Q has angles 70° and 72°. Are they similar?

A. Yes **B.** No

3. Triangle P has angles 40° and 63°. Triangle Q has angles 40° and 82°. Are they similar?

A. Yes **B.** No

4. Which test shows these triangles are similar?



A. Not similar **B.** SSS **C.** SAS **D.** AA

5. Triangle P has angles 49° and 36°. Triangle Q has angles 49° and 100°. Are they similar?

A. Yes **B.** No

6. Triangle P has angles 32°, 48° and 100°. Triangle Q has angles 32° and 100°. Are they similar?

A. Yes **B.** No

7. Triangle P has angles 47° and 55°. Triangle Q has angles 47° and 83°. Are they similar?

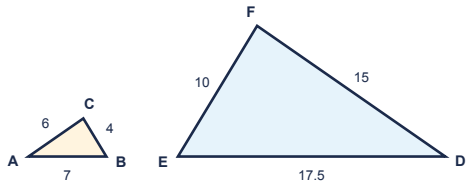
A. Yes **B.** No

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8. △ABC ~ △DEF. ∠A = 60° and ∠E = 30°. What is ∠C, in degrees?

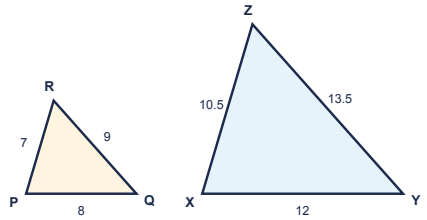
   Answer: _____ °

9. Work out the scale factor from the smaller triangle to the larger.



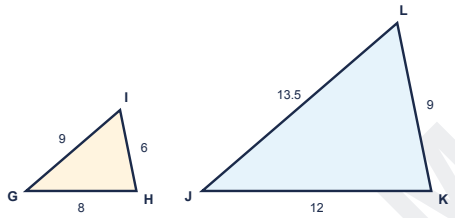
   Answer: _____

10. What is the scale factor from the smaller triangle to the larger?



    Answer: _____

11. Find the scale factor from the smaller triangle to the larger.



    Answer: _____

12. △GHI ~ △JKL. ∠G = 47° and ∠K = 60°. What is ∠I, in degrees?

    Answer: _____ °

13. △LMN ~ △STU. ∠L = 30° and ∠T = 70°. What is ∠N, in degrees?

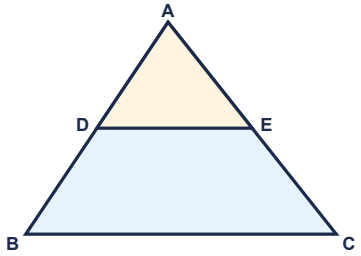
    Answer: _____ °

14. △ABC ~ △DEF. Which ratio is equal to AB/DE?

    A. BC/DF **B.** AC/EF **C.** BC/EF

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15. A line parallel to BC cuts AB at D and AC at E. Why is △ADE ~ △ABC?



A. AA, using corresponding angles **B.** SSS, using equal sides **C.** They are congruent

D. They are not similar

16. Why are all equilateral triangles similar?

A. All their angles are 60° **B.** They have equal areas **C.** Their sides are all 1

D. They are congruent

17. Are all isosceles triangles similar?

A. No, their angles can differ **B.** Yes, always **C.** Only if red **D.** Yes, by SSS

18. Ethan says sides 5, 9, 8 are similar to sides 20, 36 and x. What must x be?

Answer: _____

19. In right △ABC, a height is drawn from the right angle to the hypotenuse. How many similar triangles are there?

A. 3 **B.** 2 **C.** 1 **D.** 4

20. Two triangles are congruent. Are they also similar?

A. Yes, with a scale factor of 1 **B.** No, never **C.** Only if right-angled **D.** Only by SSS

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Answer key · Version X3964

Similar triangles: AA, SSS and SAS tests worksheet – Grade 8 · Grade 8 · to reprint this sheet or check the answers, enter X3964 on the skill page.

1. **A (SAS)**
2. **A (Yes)**
3. **B (No)**
4. **C (SAS)**
5. **B (No)**
6. **A (Yes)**
7. **B (No)**
8. **90**
9. **2.5**
10. **1.5**
11. **1.5**
12. **73**
13. **80**
14. **C (BC/EF)**
15. **A (AA, using corresponding angles)**
16. **A (All their angles are 60°)**
17. **A (No, their angles can differ)**
18. **32**
19. **A (3)**
20. **A (Yes, with a scale factor of 1)**

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