

Similar triangles

1

- a Yes, SAS.
- b Yes, RHS.
- c Unknown, there is not enough information.
- d Yes, AAA.
- e No, they are not similar.
- f Yes, RHS.
- g Yes, AAA.
- h Yes, SSS.

2

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|---|-----------|--------|---|-----------|--------|
| a | i A and D | ii RHS | b | i B and D | ii AAA |
| c | i A and B | ii RHS | d | i C and D | ii SSS |
| e | i A and C | ii SAS | f | i B and C | ii SAS |
| g | i C and D | ii RHS | h | i B and D | ii AAA |

Angles of similar triangles

3

- a $x = 28, y = 89$ b $a = 64, b = 85$ c $p = 71, q = 38$ d $r = 52, s = 38$

4 127°

Sides of similar triangles

5

- a $m = 10, n = 21$ b $g = 30, f = 5$ c $x = 42, y = 20$ d $a = 9, b = 66$

6

- a NL b NM

Applications

7

a $\triangle ABC$ and $\triangle ADE$, AAA

b $BC = \frac{56}{3}$

8

a AAA

b $CD = 25$

9

a $\triangle JMN$ and $\triangle JKL$, AAA

b $MN = 5$

10 $\frac{AB}{BD} = \frac{AC}{DE}$

11 Example answers:

- $\frac{FX}{GX} = \frac{3}{7}$
- EF and GH are parallel.

12

- a The triangles don't have matching sides in the same ratio.
b $YZ = 9$

13

- a AAA b 12 m c $x = 9$ m

14 136 cm

15

a All three pairs of corresponding angles are equal or (AAA)

b $h = 20$