

Using the Sine Rule to find missing sides

Match each side with its opposite angle, then calculate accurately.



Name _____

Date _____

Diagram first

The measurements are in the diagrams. Circle a complete opposite pair, write the Sine Rule substitution, keep full calculator values, and round the final side to 1 decimal place.

Worked example A side of 11.5 cm is opposite 47° ; x is opposite 73° .



$$\frac{x}{\sin 73^\circ} = \frac{11.5}{\sin 47^\circ}$$

$$x = \frac{11.5 \sin 73^\circ}{\sin 47^\circ} = 15.0 \text{ cm (1 d.p.)}$$

Check: the larger angle is opposite the longer side.

1. Find x to 1 d.p.



2. Find x to 1 d.p.



3. Find x to 1 d.p.



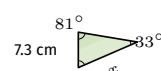
4. Find x to 1 d.p.



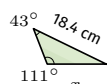
5. Find x to 1 d.p.



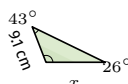
6. Find x to 1 d.p.



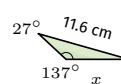
7. Find x to 1 d.p.



8. Find x to 1 d.p.



9. Find x to 1 d.p.



Using the Sine Rule to find missing sides

Apply the same opposite-pair method to a wider mix of triangles.



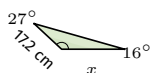
Name _____

Date _____

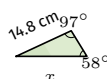
Reasonableness check

After calculating, compare the two relevant angles: the side opposite the larger angle must be longer. Include units in every answer.

10. Find x to 1 d.p.



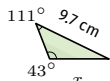
11. Find x to 1 d.p.



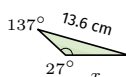
12. Find x to 1 d.p.



13. Find x to 1 d.p.



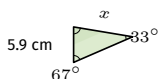
14. Find x to 1 d.p.



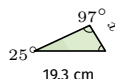
15. Find x to 1 d.p.



16. Find x to 1 d.p.



17. Find x to 1 d.p.



18. Find x to 1 d.p.

