

Construct Triangles

Use the supplied segments as exact compass widths. Leave the locating arcs visible.

Compass and straightedge workspace

1.

Construct an equilateral triangle on segment ST.



A horizontal line segment with endpoints labeled S and T.

WORKSPACE

2.

Construct a triangle with base ST and the two supplied side lengths.



Three horizontal line segments are shown. The top segment is labeled ST. Below it, to the left, is a segment labeled SU. To the right of SU is a segment labeled TU.

WORKSPACE

3.

Construct an equilateral triangle on segment ST.



A horizontal line segment with endpoints labeled S and T.

WORKSPACE

4.

Construct a triangle with base ST and the two supplied side lengths.



Three horizontal line segments are shown. The top segment is labeled ST. Below it, to the left, is a segment labeled SU. To the right of SU is a segment labeled TU.

WORKSPACE

Construct Triangles

Construction Answer Key

Use the supplied segments as exact compass widths. Leave the locating arcs visible.

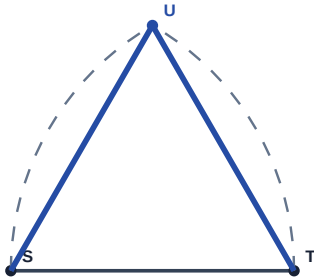
Solutions and compass marks

1.

Construct an equilateral triangle on segment ST.

1. Set the compass to ST.
2. Draw circles or broad arcs centered at S and T without changing the compass.
3. Label either intersection U; join SU and TU.

The reflected intersection on the other side of the baseline is equally valid.

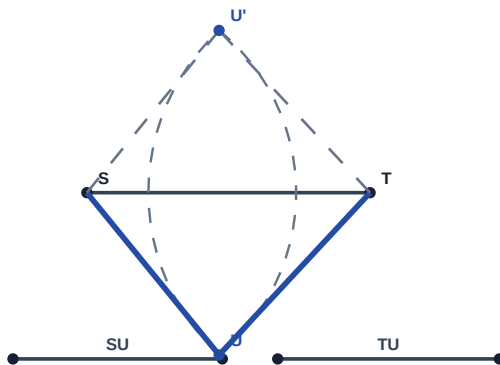


2.

Construct a triangle with base ST and the two supplied side lengths.

1. Transfer the segment labeled SU; draw an arc centered at S.
2. Transfer the segment labeled TU; draw an arc centered at T.
3. Each arc intersection is a valid position for U. Join it to S and T.

The two reflected triangles are both valid because no side of the baseline was specified.



Construct Triangles

Construction Answer Key

Use the supplied segments as exact compass widths. Leave the locating arcs visible.

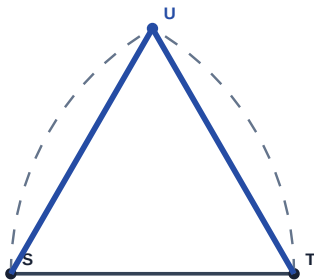
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Construct an equilateral triangle on segment ST.

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The reflected intersection on the other side of the baseline is equally valid.



4.

Construct a triangle with base ST and the two supplied side lengths.

1. Transfer the segment labeled SU; draw an arc centered at S.
2. Transfer the segment labeled TU; draw an arc centered at T.
3. Each arc intersection is a valid position for U. Join it to S and T.

The two reflected triangles are both valid because no side of the baseline was specified.

