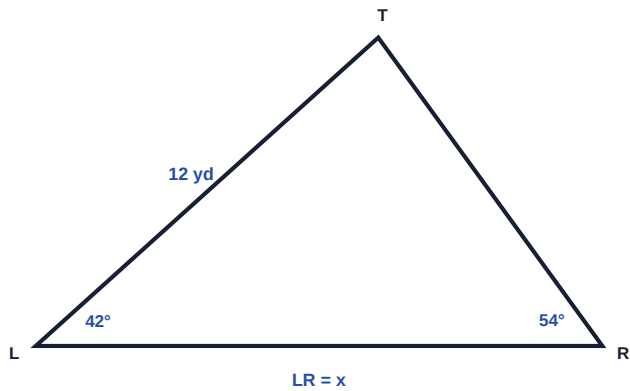


Multi-Step Trigonometry

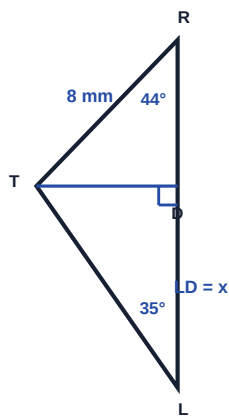
Diagrams are not to scale. Introduce or use the altitude through D to form two right triangles, then complete the requested multi-step calculation. Round every calculated step to the nearest tenth and use that rounded value in the next step.

1. Drop altitude TD to LR, with foot D on LR. Find LR.



LR = ____ yd

2. Use altitude TD, perpendicular to LR at D. Find LD.

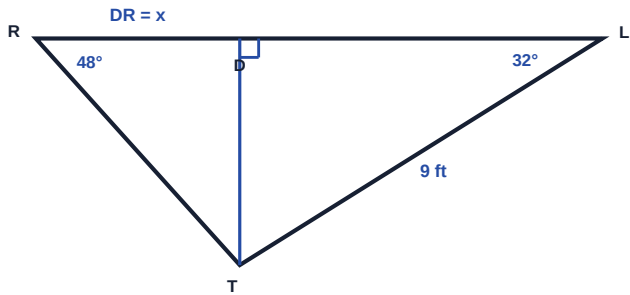


LD = ____ mm

Multi-Step Trigonometry

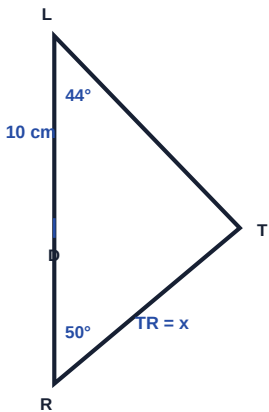
Diagrams are not to scale. Introduce or use the altitude through D to form two right triangles, then complete the requested multi-step calculation. Round every calculated step to the nearest tenth and use that rounded value in the next step.

3. Use altitude TD, perpendicular to LR at D. Find DR.



DR = ____ ft

4. Drop altitude TD to LR, with foot D on LR. Find TR.

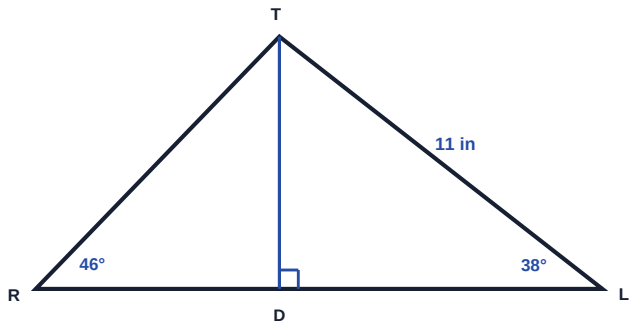


TR = ____ cm

Multi-Step Trigonometry

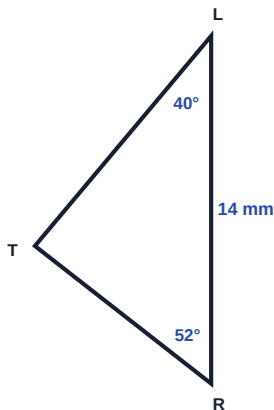
Diagrams are not to scale. Introduce or use the altitude through D to form two right triangles, then complete the requested multi-step calculation. Round every calculated step to the nearest tenth and use that rounded value in the next step.

5. Use altitude TD, perpendicular to LR at D. Find the area of triangle LTR.



Area = ____ in^2

6. Drop altitude TD to LR, with foot D on LR. Find the area of triangle LTR.



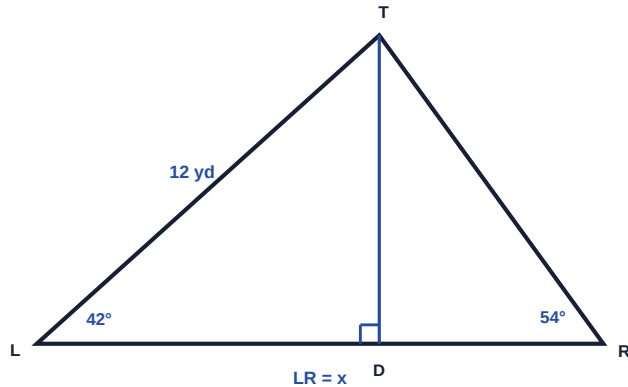
Area = ____ mm^2

Multi-Step Trigonometry

Worked Answer Key

Diagrams are not to scale. Introduce or use the altitude through D to form two right triangles, then complete the requested multi-step calculation. Round every calculated step to the nearest tenth and use that rounded value in the next step.

1. Drop altitude TD to LR, with foot D on LR. Find LR.

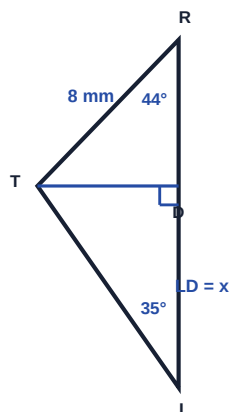


height: $TD = 12 \sin(42^\circ)$; 8.0 yd
 left base segment: $LD = TD / \tan(42^\circ)$; 8.9 yd
 right base segment: $DR = TD / \tan(54^\circ)$; 5.8 yd
 full base: $LR = LD + DR$; 14.7 yd

Answer: 14.7 yd

Each calculated value is rounded to the nearest tenth before it is used in the next step.

2. Use altitude TD, perpendicular to LR at D. Find LD.



height: $TD = 8 \sin(44^\circ)$; 5.6 mm
 left base segment: $LD = TD / \tan(35^\circ)$; 8.0 mm

Answer: 8.0 mm

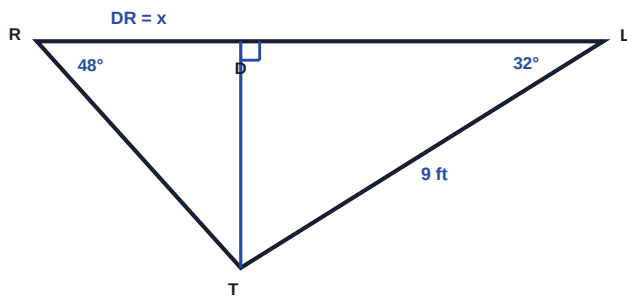
Each calculated value is rounded to the nearest tenth before it is used in the next step.

Multi-Step Trigonometry

Worked Answer Key

Diagrams are not to scale. Introduce or use the altitude through D to form two right triangles, then complete the requested multi-step calculation. Round every calculated step to the nearest tenth and use that rounded value in the next step.

3. Use altitude TD, perpendicular to LR at D. Find DR.



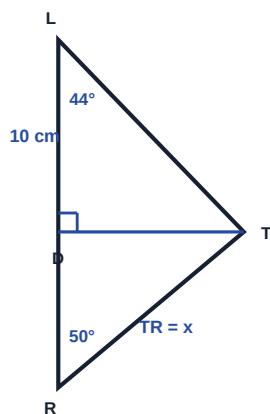
height: $TD = 9 \sin(32^\circ)$; 4.8 ft

right base segment: $DR = TD / \tan(48^\circ)$; 4.3 ft

Answer: 4.3 ft

Each calculated value is rounded to the nearest tenth before it is used in the next step.

4. Drop altitude TD to LR, with foot D on LR. Find TR.



height: $TD = 10 \tan(44^\circ)$; 9.7 cm

right slanted side: $TR = TD / \sin(50^\circ)$; 12.7 cm

Answer: 12.7 cm

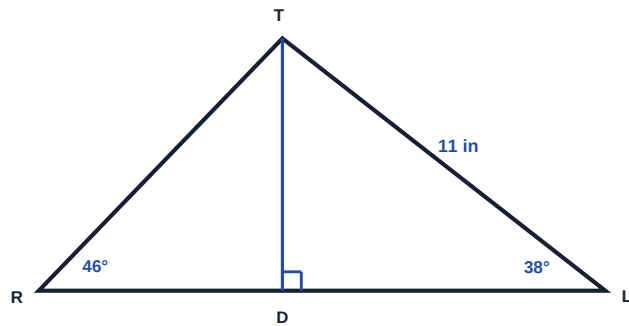
Each calculated value is rounded to the nearest tenth before it is used in the next step.

Multi-Step Trigonometry

Worked Answer Key

Diagrams are not to scale. Introduce or use the altitude through D to form two right triangles, then complete the requested multi-step calculation. Round every calculated step to the nearest tenth and use that rounded value in the next step.

5. Use altitude TD, perpendicular to LR at D. Find the area of triangle LTR.



height: $TD = 11 \sin(38^\circ)$; 6.8 in

left base segment: $LD = TD / \tan(38^\circ)$; 8.7 in

right base segment: $DR = TD / \tan(46^\circ)$; 6.6 in

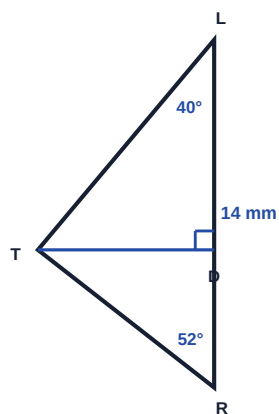
full base: $LR = LD + DR$; 15.3 in

area: $\text{Area} = (1/2)(LR)(TD)$; 52.0 in²

Answer: 52.0 in²

Each calculated value is rounded to the nearest tenth before it is used in the next step.

6. Drop altitude TD to LR, with foot D on LR. Find the area of triangle LTR.



height: $LR = LD + DR = TD/\tan(40^\circ) + TD/\tan(52^\circ)$; therefore $TD = 14 / (1/\tan(40^\circ) + 1/\tan(52^\circ))$; 7.1 mm

area: $\text{Area} = (1/2)(LR)(TD)$; 49.7 mm²

Answer: 49.7 mm²

Each calculated value is rounded to the nearest tenth before it is used in the next step.