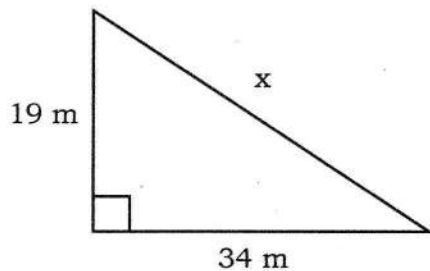


MISCELLANEOUS TRIANGLES (FOUNDATION)
CALCULATOR ALLOWED

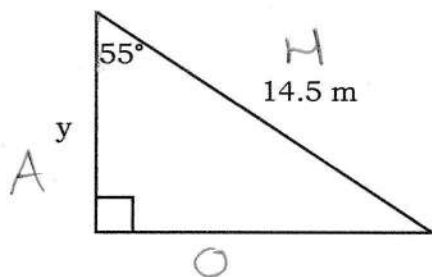


1.
 Find x to the nearest metre.



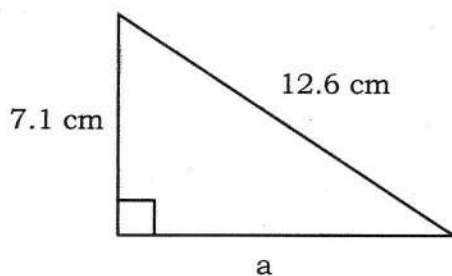
$$\begin{aligned} 19^2 &= 361 \\ 34^2 &= 1156 \\ + &= 1517 \\ \sqrt{1517} &= 38.94\dots \\ &= \underline{39\text{ m}} \end{aligned}$$

2.
 Find y to 1 decimal place.



$$\begin{aligned} &C^A H \\ y &= \cos 55^\circ \times 14.5 \\ &= 8.316\dots \\ &= \underline{8.3\text{ m}} \end{aligned}$$

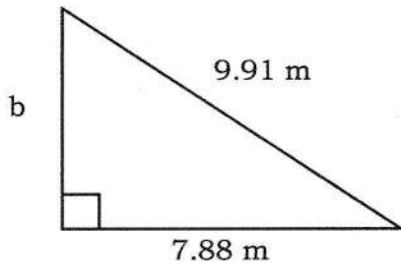
3.
 Find a to 1 decimal place.



$$\begin{aligned} 12.6^2 &= 158.76 \\ 7.1^2 &= 50.41 \\ - &= 108.35 \\ \sqrt{108.35} &= 10.409\dots \\ &= \underline{10.4\text{ cm}} \end{aligned}$$

4.

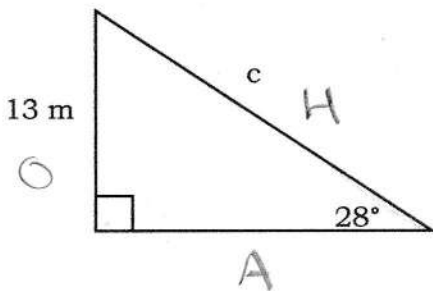
Find b to 2 decimal places.



$$\begin{aligned} 9.91^2 &= 98.2081 \\ 7.88^2 &= 62.0944 \\ - &= 36.1137 \\ \sqrt{36.1137} &= 6.0094... \\ &= \underline{\underline{6.01 \text{ m}}} \end{aligned}$$

5.

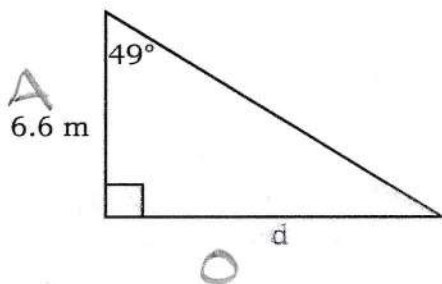
Find c to 2 significant figures.



$$\begin{aligned} S^{\circ} H \\ c &= \frac{13}{\sin 28} \\ &= 27.6907... \\ &= \underline{\underline{28 \text{ m}}} \end{aligned}$$

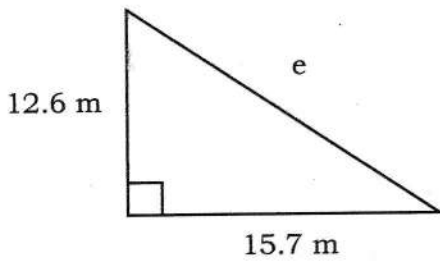
6.

Find d to 2 significant figures.



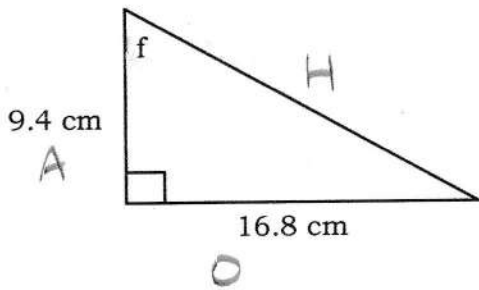
$$\begin{aligned} T^{\circ} A \\ d &= \tan 49 \times 6.6 \\ &= 7.59243... \\ &= \underline{\underline{7.6 \text{ m}}} \end{aligned}$$

7.
Find e to 3 significant figures.



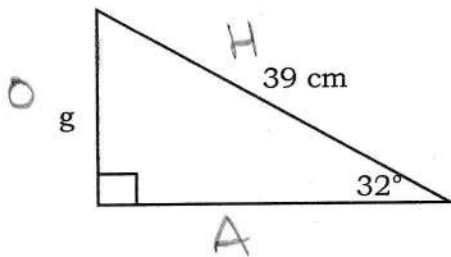
$$\begin{aligned}
 12.6^2 &= 158.76 \\
 15.7^2 &= 246.49 \\
 + &= 405.25 \\
 \sqrt{405.25} &= 20.1308\dots \\
 &= \underline{\underline{20.1 \text{ m}}}
 \end{aligned}$$

8.
Find f to 2 significant figures.



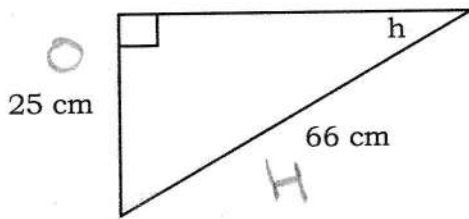
$$\begin{aligned}
 &T \circ A \\
 \tan(f) &= \frac{16.8}{9.4} \\
 f &= \tan^{-1}\left(\frac{16.8}{9.4}\right) \\
 &= 60.7719\dots \\
 &= \underline{\underline{61^\circ}}
 \end{aligned}$$

9.
Find g to 2 significant figures.



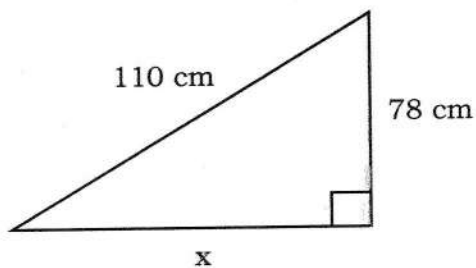
$$\begin{aligned}
 &S \circ H \\
 g &= \sin(32) \times 39 \\
 &= 20.6668\dots \\
 &= \underline{\underline{21 \text{ cm}}}
 \end{aligned}$$

10.
Find h to 2 significant figures.



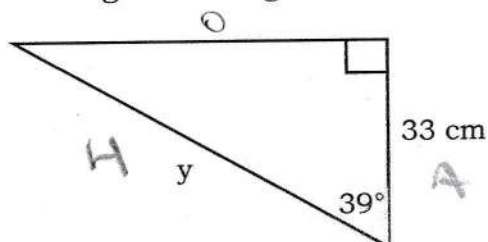
$$\begin{aligned} S^{\circ} H \\ \sin(h) &= \frac{25}{66} \\ h &= \sin^{-1}\left(\frac{25}{66}\right) \\ &= 22.2586\dots \\ &= \underline{22^{\circ}} \end{aligned}$$

11.
Find x to 2 significant figures.



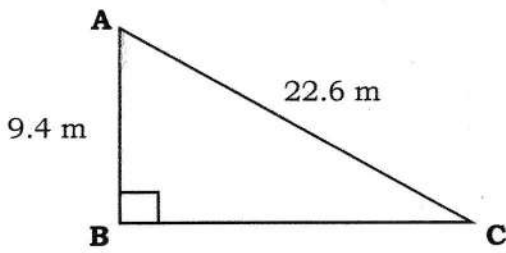
$$\begin{aligned} 110^2 &= 12100 \\ 78^2 &= 6084 \\ - &= 6016 \\ \sqrt{6016} &= 77.562\dots \\ &= \underline{78 \text{ cm}} \end{aligned}$$

12.
Find y to 2 significant figures.



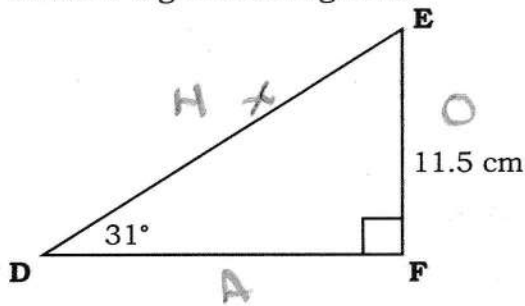
$$\begin{aligned} C^{\circ} A H \\ y &= \frac{33}{\cos 39} \\ &= 42.463\dots \\ &= \underline{42 \text{ cm}} \end{aligned}$$

13.
Find BC to 3 significant figures.



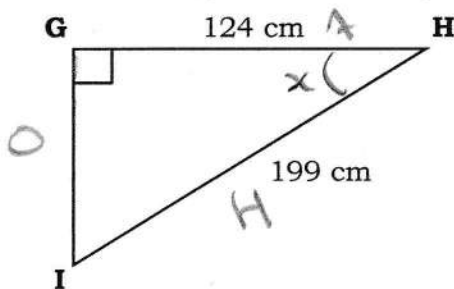
$$\begin{aligned}
 22.6^2 &= 510.76 \\
 9.4^2 &= 88.36 \\
 - &= 422.4 \\
 \sqrt{422.4} &= 20.5523\dots \\
 &= \underline{20.6 \text{ m}}
 \end{aligned}$$

14.
Find DE to 3 significant figures.



$$\begin{aligned}
 &S^{\circ} H \\
 x &= \frac{11.5}{\sin 31} \\
 &= 22.3284\dots \\
 &= \underline{22.3 \text{ cm}}
 \end{aligned}$$

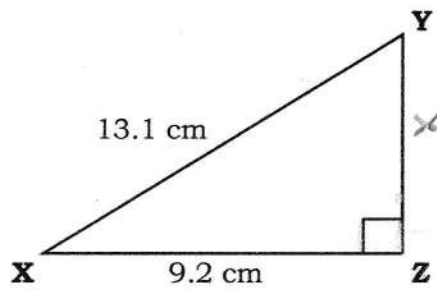
15.
Find the size of angle GHI to 2 significant figures.



$$\begin{aligned}
 &C^A H \\
 \cos x &= \frac{124}{199} \\
 x &= \cos^{-1}\left(\frac{124}{199}\right) \\
 &= 51.455\dots \\
 &= \underline{51^{\circ}}
 \end{aligned}$$

16.

Find the area of the triangle XYZ, to the nearest square centimetre.



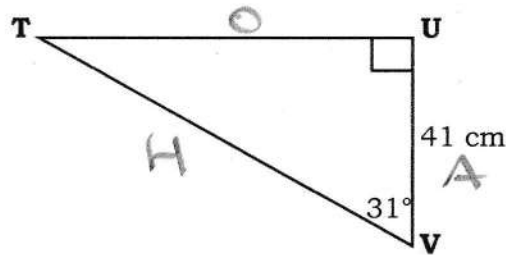
Find YZ:

$$\begin{aligned} 13.1^2 &= 171.61 \\ 9.2^2 &= 84.64 \\ - &= 86.97 \\ \sqrt{86.97} &= 9.32 \dots \end{aligned}$$

$$\begin{aligned} \text{Area} &= \frac{YZ \times 9.2}{2} = 42.8985 \dots \\ &= \underline{\underline{43 \text{ cm}^2}} \end{aligned}$$

17.

Find the area of the triangle TUV, to 3 significant figures.



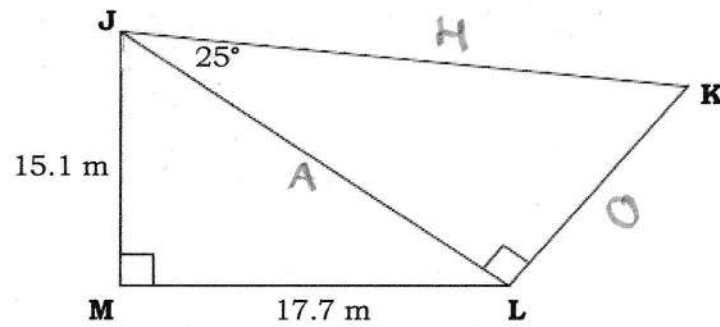
Find TU: $T^{\circ} A$

$$\begin{aligned} TU &= \tan 31 \times 41 \\ &= 24.635 \dots \end{aligned}$$

$$\begin{aligned} \text{Area} &= \frac{TU \times 41}{2} = 505.0233 \dots \\ &= \underline{\underline{505 \text{ cm}^2}} \end{aligned}$$

18.

JKLM is a quadrilateral formed from two right-angled triangles.



Find JK, to 3 significant figures.

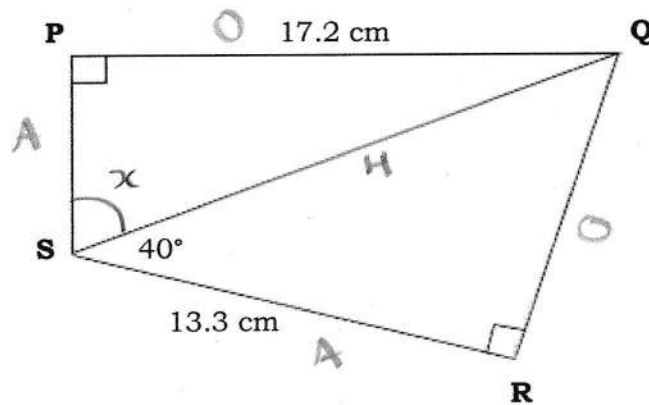
$$\begin{aligned} \text{Find } JL: \quad & 15.1^2 = 228.01 \\ & 17.7^2 = 313.29 \\ & + = 541.3 \\ & \sqrt{541.3} = 23.265\dots \end{aligned}$$

Find JK:

$$\begin{aligned} & \begin{matrix} & A & \\ C & & H \end{matrix} \\ JK &= \frac{JL}{\cos 25} \\ &= 25.6710\dots \\ &= \underline{\underline{25.7 \text{ m}}} \end{aligned}$$

19.

PQRS is a quadrilateral formed from two right-angled triangles.



Find the size of angle PSQ, to 2 significant figures.

Find SQ:

$$\begin{aligned} \text{SQ} &= \frac{13.3}{\cos 40} \\ &= 17.3614 \dots \end{aligned}$$

Find PSQ:

$$\begin{aligned} \sin x &= \frac{17.2}{\text{SQ}} \\ x &= \sin^{-1}\left(\frac{17.2}{\text{SQ}}\right) \\ &= 82.1688 \dots \\ &= \underline{82^\circ} \end{aligned}$$