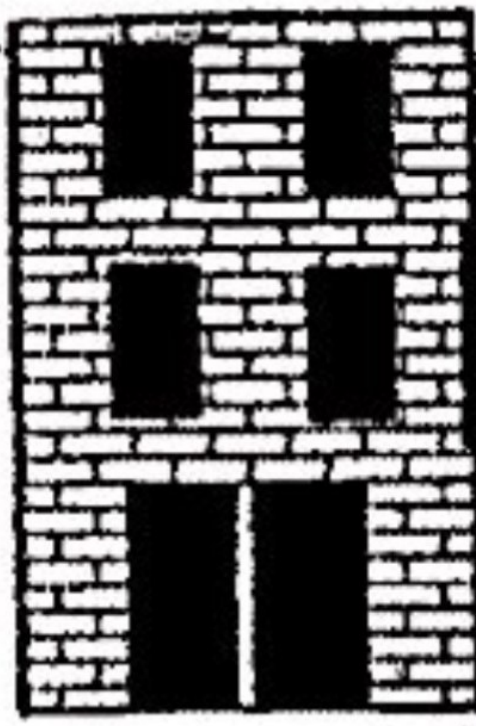
2.

A ramp has to be constructed for a new public building. The ramp should have an incline of exactly 15°. The building is located 45 feet from the road. What is the length of the ramp to the nearest tenth of a foot?



Scanned by CamScanner

1.

A loading dock has been constructed at a warehouse. The ramp should have an incline of exactly 25°. The ramp meets the building wall 15 feet above the ground. How long is the ramp to the nearest tenth of a foot.

Scanned by CamScanner

5. A tree that is 40 feet high casts a shadow 58 feet long. Find the measure of the angle of elevation of the sun.

6. From a certain point, the angle of elevation to the top of a radio tower is $48°$. From a point 100 feet closer to the tower, the angle of elevation is $72°$. Find the height of the tower.

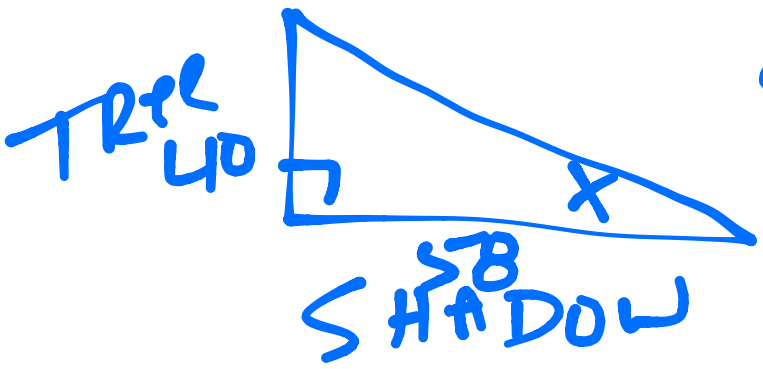
Scanned by CamScanner

1) From the top of a tower, the angle of depression to a stake on the ground is 60. The top of the tower is 80 feet above ground. How far is the stake from the foot of the tower?

2) A ladder leaning against a house makes an angle of 30 with the ground. The foot of the ladder is 7 feet from the foot of the house. How long is the ladder?

Scanned by CamScanner

ou are a block away from a skyscraper that is 780 feet tall. Your friend is between the skyscraper and yourself. The angle of elevation from your position to the top of the skyscraper is 42°. The angle of elevation from your friend's position to the top of the skyscraper is 71°. To the nearest foot, how far are you from your friend?



$\tan x = \frac{O}{A}$

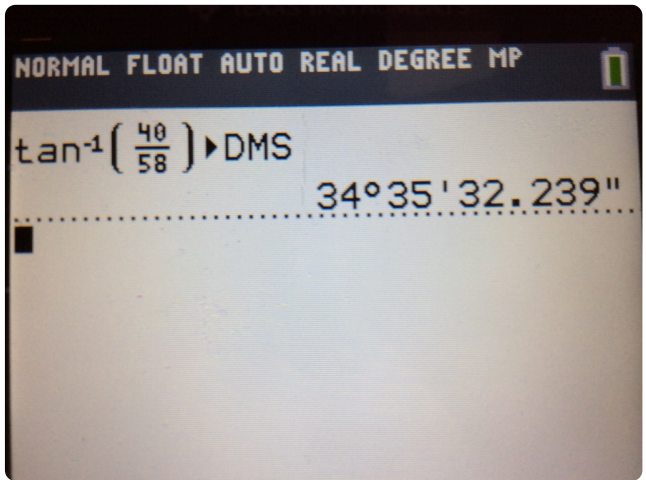
$x = x$

$40 = opp$

$58 = adj$

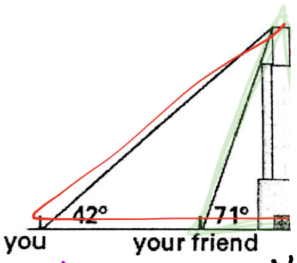
$\tan x = \frac{40}{58}$

5. A tree that is 40 feet high casts a shadow 58 feet long. Find the measure of the angle of elevation of the sun.

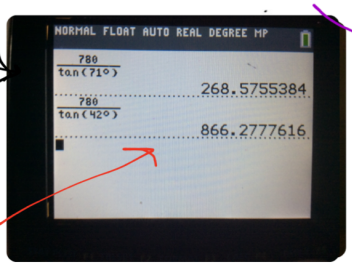


$34°36'$

ou are a block away from a skyscraper that is 780 feet tall. Your friend is between the skyscraper and yourself. The angle of elevation from your position to the top of the skyscraper is 42°. The angle of elevation from your friend's position to the top of the skyscraper is 71°. To the nearest foot, how far are you from your friend?



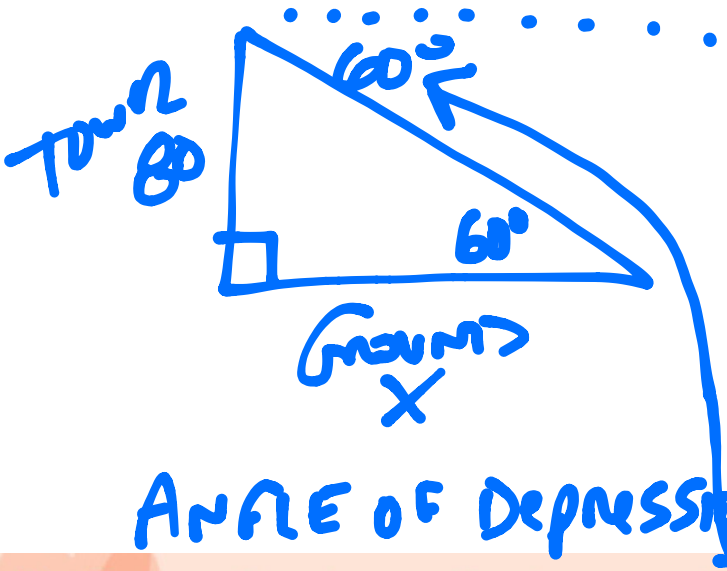
$\tan 71° = \frac{780}{y}$



$\tan 42° = \frac{780}{x}$

866.3 − 268.6

597.7



$\chi = 60^\circ$
$80 = OPP$
$X = ADJ$

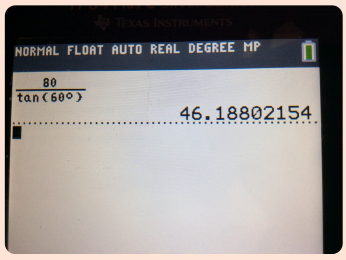
$\tan \chi = \frac{O}{A}$

$\tan 60 = \frac{80}{x}$

ANGLE OF DEPRESSION = ANGLE OF ELEVATION

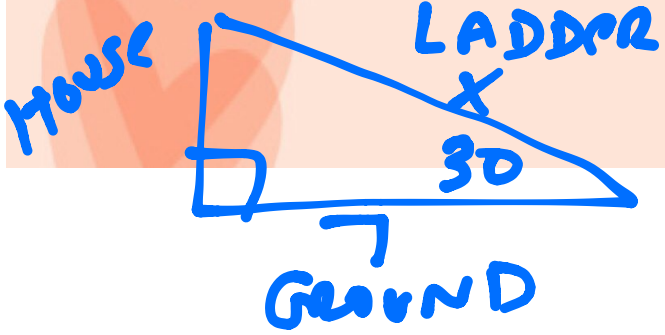
1) From the top of a tower, the angle of depression to a stake on the ground is 60. The top of the tower is 80 feet above ground. How far is the stake from the foot of the tower?

$\frac{X \cdot \tan 60^\circ}{\tan 60^\circ} = \frac{80}{\tan 60^\circ}$



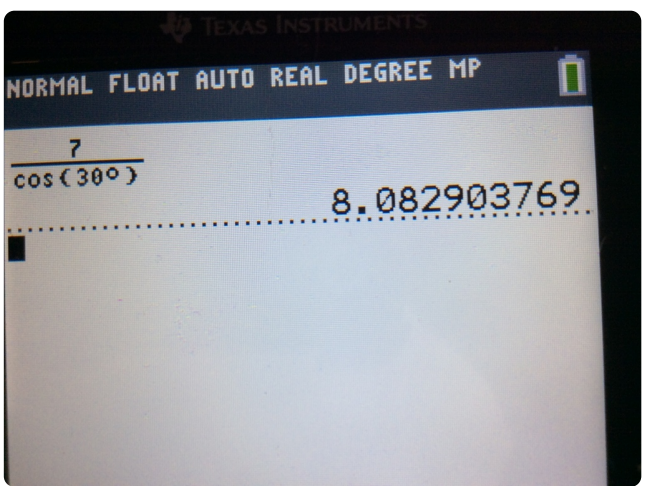
46.2

2) A ladder leaning against a house makes an angle of 30 with the ground. The foot of the ladder is 7 feet from the foot of the house. How long is the ladder?



$\chi = 30^\circ$
$7 = ADJ$
$X = HYP$

$\cos \chi = \frac{A}{H}$



$\cos 30^\circ = \frac{7}{x}$

$\frac{x \cdot \cos 30^\circ}{\cos 30^\circ} = \frac{7}{\cos 30^\circ}$