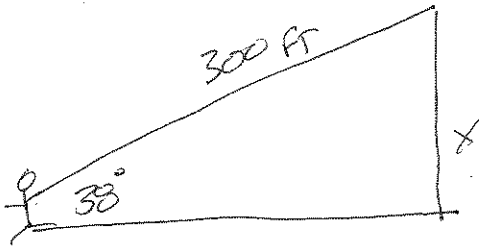


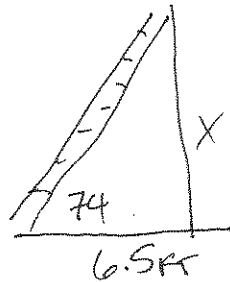
1. A boy flying a kite lets out 300 feet of string which makes an angle of  $38^\circ$  with the ground. Assuming that the string is straight, how high above the ground is the kite?



$$\sin(38) = \frac{x}{300}$$

$$\boxed{184.7 \text{ ft}}$$

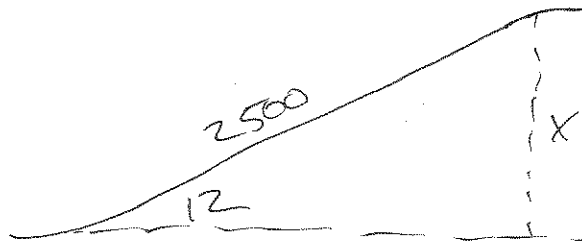
2. A ladder leaning against the wall makes an angle of  $74^\circ$  with the ground. If the foot of the ladder is 6.5 feet from the wall, how high on the wall is the ladder?



$$\tan 74 = \frac{x}{6.5}$$

$$\boxed{22.7 \text{ ft}}$$

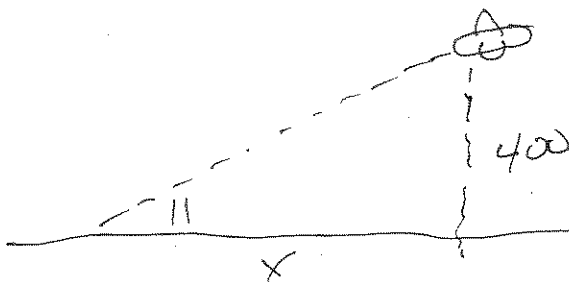
3. A straight road to the top of a hill is 2500 feet long and makes an angle of  $12^\circ$  with the horizontal. Find the height of the hill.



$$\sin 12 = \frac{x}{2500}$$

$$\boxed{519.8 \text{ ft}}$$

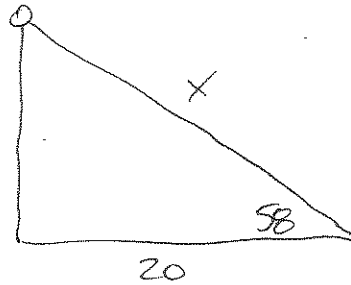
4. An airplane climbs at an angle of  $11^\circ$  with the ground. Find the ground distance it has traveled when it has attained an altitude of 400 feet.



$$\tan(11) = \frac{400}{x}$$

$$\boxed{2057.8 \text{ ft}}$$

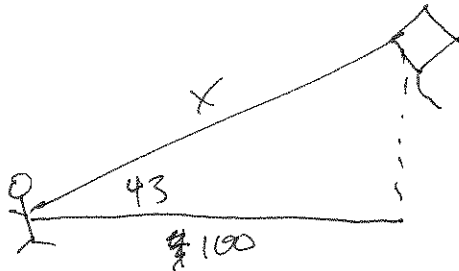
5. A wire attached to the top of a pole reaches a stake in the ground 20 feet from the foot of the pole and makes an angle of  $58^\circ$  with the ground. Find the length of the wire.



$$\cos(58) = \frac{20}{x}$$

$$\boxed{37.7 \text{ ft}}$$

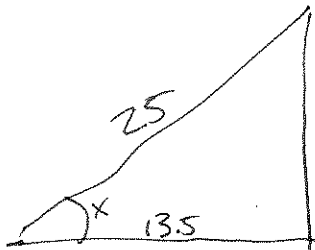
6. Henry is flying a kite. The kite string makes an angle of  $43^\circ$  with the ground. If Henry is standing 100 feet from a point on the ground directly below the kite, find the length of the kite string.



$$\cos 43 = \frac{100}{x}$$

$$\boxed{136.7 \text{ ft}}$$

7. A 25 foot ladder leans against a building. The ladder's base is 13.5 feet from the building. Find the angle which the ladder makes with the ground.  $\boxed{U759}$  - INVERSE TRIG

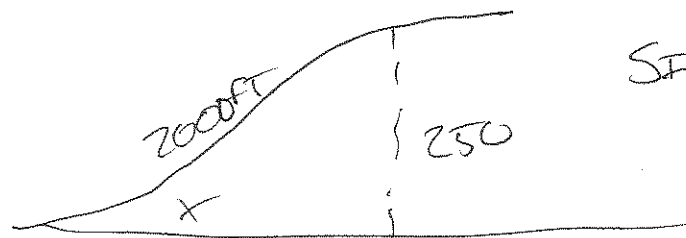


~~$$\cos(x) = \frac{13.5}{25}$$~~

$$\cos(x)^{-1} = \frac{13.5}{25}$$

$$\boxed{57.3^\circ}$$

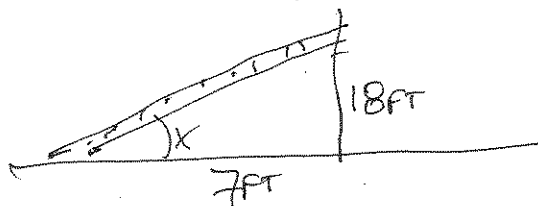
8. In order to reach the top of a hill which is 250 feet high, one must travel 2000 feet straight up a road which leads to the top. Find the number of degrees contained in the angle which the road makes with the horizontal.  $\boxed{U759}$  INVERSE TRIG



$$\sin(x)^{-1} = \frac{250}{2000}$$

$$\boxed{7.2^\circ}$$

9. A ladder leans against a building. The top of the ladder reaches a point on the building which is 18 feet above the ground. The foot of the ladder is 7 feet from the building. Find the measure of the angle which the ladder makes with the level ground.  $\boxed{U759}$  INVERSE TRIG



$$\tan(x)^{-1} = \frac{18}{7}$$

$$\boxed{68.7^\circ}$$