

July 31, 2003

Show all work for credit. Leave all answers as exact answers unless otherwise stated. Keep at least three digits on all calculations.

1. For each of the following, give an exact value for x .

(a) $\sin 30^\circ = x$

(b) $\cos 45^\circ = x$

(c) $\tan 60^\circ = x$

2. For each of the following, solve for x , find all solutions between 720° and 900°

(a) $\cos x = .17365$

(b) $\sin x = .25882$

3. As you stand at the top of a cliff, you wonder just how far a fall it will be when you take a bad step. So you look to the river below you as you pull out your very expensive and heavy surveying equipment. Leaning out over the edge, you measure the far side of the river as being 75° down from the horizon, and the near edge as 78° down from the horizon. You know from your detailed maps that the river is 35 ft. wide at this place. How high are you?