1ª) Convert the following:
  a) 20° to radians (use fractions to express it)
  b) 3.1 radians to degrees
  c) π/6 radians to degrees
  d) 156.34° to radians

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2) Given that $\frac{\pi}{2} \le \alpha \le \pi$ and $\cos \alpha = -\frac{\sqrt{3}}{2}$, find sin α and tan α (Don't find α using your calculator)

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3) Calculate all the possible angles in each of the following:
 a) $\cos x = \frac{1}{2}$ b) tan x = − 0.4

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4ª) From a window in building A, I observe the top of building B across the 50 foot wide street at an angle of elevation of 74°25′. I observe the base of building B at an angle of depression of 52°18′. Find the height of building B.

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5) Prove the identities:

  a) $$\frac{sen^2 x - \cos^2 x}{sen^4 x - \cos^4 x} = 1$$ b) $$tg^2 x - tg^2 x \cdot sen^2 x = sen^2 x$$

6) If $\sin \alpha = \approx 0{,}8$ and $0 \le \alpha \le \frac{\pi}{2}$, find the trigonometric ratios of $\pi + \alpha$ and $2\pi - \alpha$. Do not find α using your calculator. Make a unit circle drawing if you need it.

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7) How would you calculate the length of AB using the information provided? Show all your steps.

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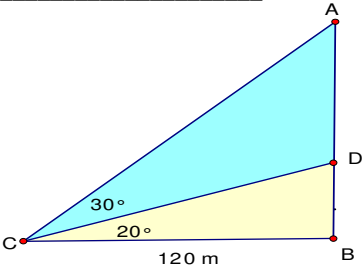
8) . A person observes that from point A, the angle of elevation to the top of a cliff at D is 30°. Another person at point B, notes that the angle of elevation to the top of the cliff is 45°. If the height of the cliff is 80.0 m, find the distance between A and B. Show the steps of your solution.

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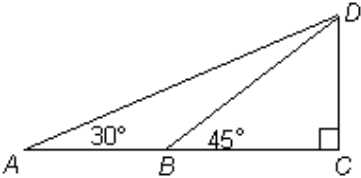
9) Solve these trigonometric equations:

a) $\sin^2 x - \cos^2 x = \frac{1}{2}$

b) $\sin^2 x - \sin x = 0$

1	2	3	4	5	6	7	8	9
0.8	0,75	0,75	1	1,5	1,2	1	2	1