11.) *Use a calculator to approximate the value of each expression. Give answers to six decimal places.*

$\sin 38^\circ 42'$

$\sin^{-1}\left(38\frac{42}{60} \cdot \pi / 180\right) =$

~ 42.4885

17.) $\sin(-312^\circ 12')$

$\sin^{-1}\left(-312^\circ \frac{12}{60} \cdot \pi/180\right) =$

Err

31.) *Find the value of θ in the interval [0°, 90°] that satisfies each statement. Write each answer in decimal degrees to six decimal places.*

$\sin\theta = 0.27843196$

$\sin^{-1}\sin\theta = \sin^{-1}(0.27843196) = 16.1666$

46.) $\cos 100^\circ \cos 80^\circ - \sin 100^\circ \sin 80^\circ$

$= 0.98481$

47.) $\sin^2 36^\circ + \cos^2 36^\circ$

$= 1.00000$

69.) *Find the grade resistance, to the nearest ten pounds, for a 2100lb car travelling on a 1.8° uphill grade.*

$f = w\sin\theta$

$2100(\sin 1.8 \cdot \pi/180) = f = 35.675$

$= 40168$

71) A 2600lb car travelling downhill has a grade resistance of -130lbs. Find the angle of the grade to the nearest tenth of a degree.

$f = W \sin\theta$

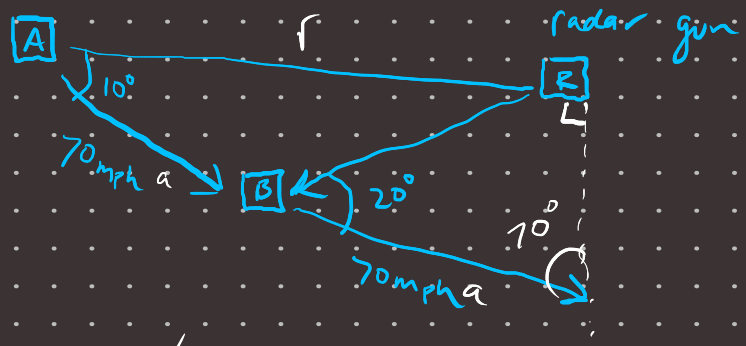
$-130 = 2600 \sin\theta$

$\frac{-130}{2600} = \sin^{-1} \sin\theta$

$-0.05 = \sin^{-1} \sin\theta$

$\sin\theta = -2.9°$

89) Find the radar readings, to the nearest unit, for Auto A and Auto B shown in the figure.



$90° - 20° = 70°$, B

$90 - 10 = 80°$, A

$a = \cos\theta r$

car A $= 70 \cos 10° = 68.936$ mph, 69 mph

car B $= 70 \cos 20° = 65.778$ mph, 66 mph