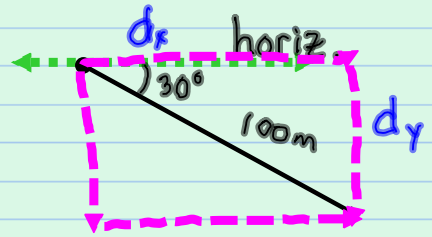
Ex. 3.2, 3.3, #10, 12, 17, 20

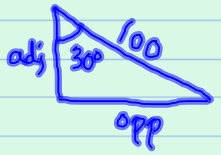
Ex 3.2 p61



$d_x = hyp \cos\theta$

$d_y = hyp \sin\theta$

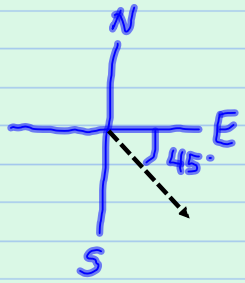
mode - degrees

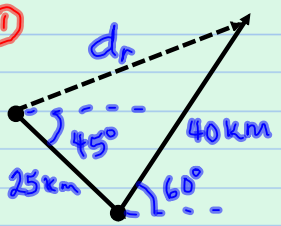


$d_x = 100 \cos 30° = 86.6\ m$

$d_y = 100 \sin 30 = 50\ m$

Ex 3.3 p62

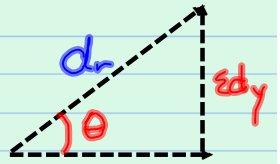


① 

d_r shortest d

② $\Sigma d_x = +25\cos 45 + 40\cos 60 = +37.7$ km right

$\Sigma d_y = -25\sin 45 + 40\sin 60 = +16.9$ km up



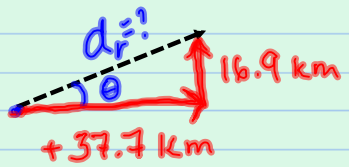
magnitude

$d_r = \sqrt{\Sigma d_x^2 + \Sigma d_y^2}$

$\theta = \tan^{-1} \frac{\Sigma d_y}{\Sigma d_x}$

direction

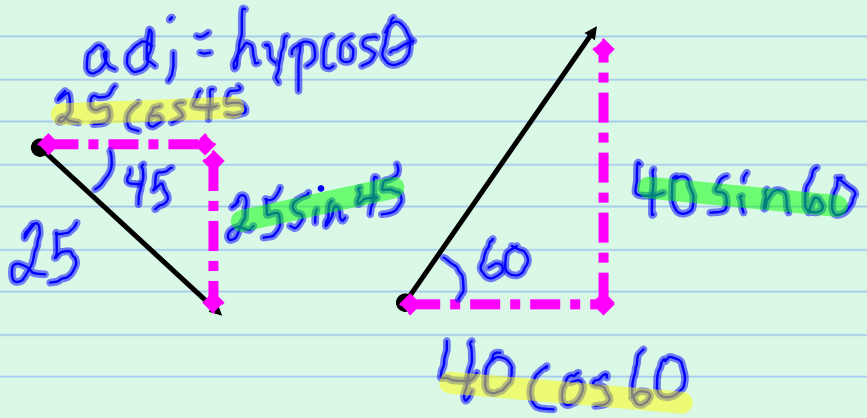
* ③



④ $d_r = \sqrt{37.7^2 + 16.9^2} = 41.3$ km

⑤ $\theta = \tan^{-1} \frac{16.9}{37.7} = 24°$

41.3 km [24° N of E]


adj = hypcosθ
25cos45
45
25
25sin45
40sin60
60
40cos60