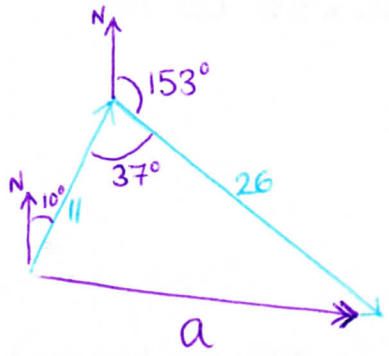
a)



$a^2 = 11^2 + 26^2 - 2 \times 11 \times 26 \cos 37$

$a = 18.44$

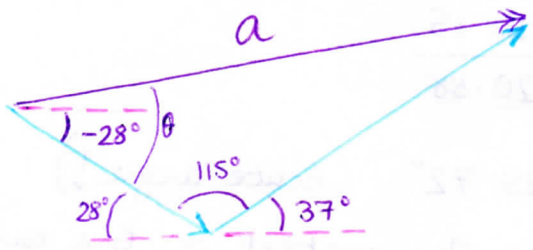
$\frac{\sin \theta}{26} = \frac{\sin 37}{18.44}$

$\theta = \sin^{-1}\left(\frac{26 \sin 37}{18.44}\right)$

$\theta = 58.03°$ + 10° for Bearing

(18.44 , 068.03°)

b)



$a^2 = 7^2 + 11^2 - 2 \times 7 \times 11 \cos 115$

$a = 15.33$

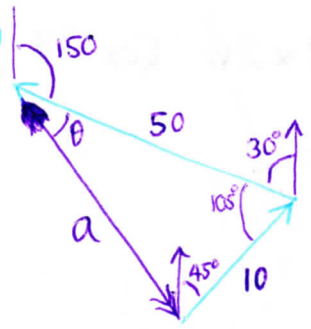
$\frac{\sin \theta}{11} = \frac{\sin 115}{15.33}$

$\theta = 40.56$

$\theta - 28$ to find the vector angle

(15.33 , 12.56°)

c)



$a^2 = 10^2 + 50^2 - 2 \times 10 \times 50 \cos 105°$

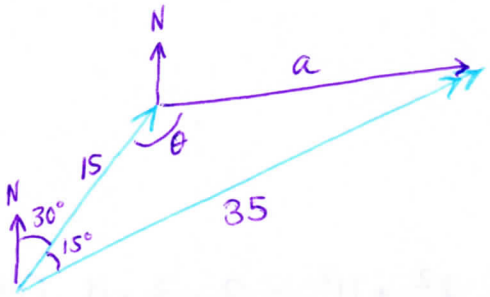
$a = 53.47$

$\frac{\sin\theta}{10} = \frac{\sin 105}{53.47}$

$\theta = 10.41°$ (+ 150° for bearing)

$(53.47 , 160.41°)$

d)



$a^2 = 15^2 + 35^2 - 2 \times 15 \times 35 \cos 15$

$a = 20.88$

$\frac{\sin\theta_1}{35} = \frac{\sin 15}{20.88}$

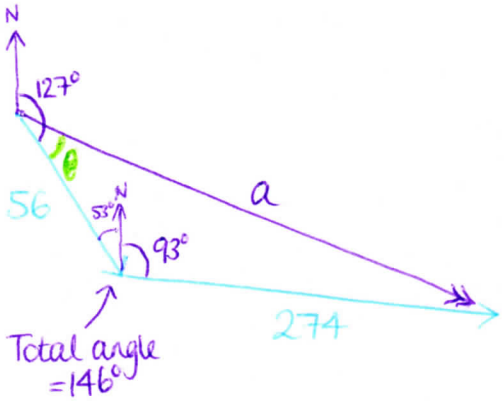
$\theta_1 = 25.72°$ (Acute angle!)

This angle does not make sense in the context of the question.
Another value for θ which gives the same value of sin θ is
$180 - \theta_1 = 154.28°$. $\theta = 154.28°$ (Obtuse angle).

To identify the required bearing: $360 - 150 - 154.28 = 55.72°$

$(20.88 , 055.72°)$

e)



$a^2 = 56^2 + 274^2 - 2 \times 56 \times 274 \cos 146$

$a = 321.95$

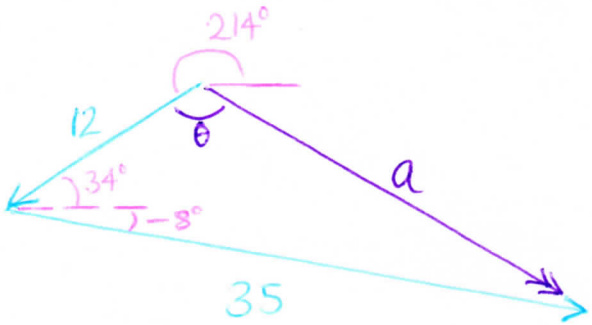
$\frac{\sin\theta}{274} = \frac{\sin 146}{321.95}$

$\theta = 28.42°$

For bearing: $127° - 28.42° = 098.58°$

$(321.95 , 098.58°)$

f)



$a^2 = 12^2 + 35^2 - 2 \times 12 \times 35 \cos 42$

$a = 27.29$

$\frac{\sin\theta}{35} = \frac{\sin 42}{27.29}$

$\theta = 59.11°$

$214° + 59.11° = 273.11°$

$(27.29 , 273.11°)$

or $(27.29 , -86.89°)$