

Q1

75 km
50 km
 θ
start

$\tan \theta = \frac{75}{50}$
 $\theta = 56^\circ 19' \rightarrow 56^\circ$
bearing = N 56° W

Q2

N
bearing
1000 km
940 km
 θ

$\tan \theta = \frac{940}{1000}$
 $\theta = 43^\circ 14'$
bearing = 133°14'

Q3

N
bearing
1050 km
475 km
 θ

(i) $\tan \theta = \frac{475}{1050}$
 $\theta = 24^\circ 20'$
bearing = 204°20'
(ii) **bearing = N24°20' E**

Q4 (i)

N
X
1463 km
655 km
Y
 θ

$\cos \theta = \frac{655}{1463}$
 $\theta = 63^\circ 24' \rightarrow 63^\circ$
bearing = 297°

Q4 (ii)

N
bearing
N
75 km
64 km
K
J
 θ

$\tan \theta = \frac{75}{64}$
 $\theta = 49^\circ 31' \rightarrow 50^\circ$
bearing = 040°

Q5

N
S
80 km
150 km
R
 θ

(i) $\tan \theta = \frac{80}{150}$
 $\theta = 28^\circ 4' \rightarrow 28^\circ$
bearing = 298°
(ii) **bearing = 118°**

Q6

N
15.6 km
150°
24.2 km
E
 θ

(i) $\tan \theta = \frac{15.6}{24.2}$
 $\theta = 32^\circ 48' \rightarrow 33^\circ$
bearing = 003°
(ii) **183°**
(iii) $360^\circ - 30^\circ = 330^\circ$

Q7

N
950 km
235°
800 km
A
T
 θ
325°

(i) $\tan \theta = \frac{950}{800}$
 $\theta = 49^\circ 54' \rightarrow 50^\circ$
bearing = 360° - 35° - 50° = 275°
(ii) $x^2 = 950^2 + 800^2$ (Pythagoras)
 $= 1542500$
 $x = 1241.974 \dots \text{km}$
Time = $\frac{D}{S}$
 $= \frac{1241.974 \dots}{450}$
= 2h 46 min

Q8

N
400 km
130°
220°
400 km
P
R
45°
45°
ISOSCELES TRIANGLE!

bearing = 265°