GEOGRAPHY ELECTIVE
UPPER SECONDARY
ISOTIMS

1. **An isotim is a line joining all places with the same transport costs for moving unit weight (usually tones) of**

⊕ **Raw material from the *source* [denoted by R] of the raw material to any one these places,**

OR

⊕ **A finished product from any one of these places (usually a factory) to a *market* [denoted by M]**

2. **The transport cost is shown by a number written on the line.**

3. **Isotims are usually drawn as *concentric circles* with the center of this set of circles at R or M.**

4. **The figure on the *circumference* of each circle represents the locations of all places with the *transport cost* .**

EXAMPLE:

⊕ **Figure a shows isotims for outsourcing a raw material out of its source at R. P1 and P2 are places of different distances away from R. To move this raw material from R to P1, the transport cost would be $6.**

⊕ **Figure b shows the isotims for moving a finished product from 2 possible sites, P3 and P4.of a factory to a market at M. To move the finished product from P3 to M would cost $ _____ while the transport cost of the same finished product at P4 would be $ _____.**

⊕ **In figure c, a factory needs 2 different raw materials from sources R1 and R2 respectively, and the finished product is to be transported to a market at M1.**

(a) Given that the factory is located at site F, find the total cost of transporting the 2 raw materials to F and of transporting the end product from F to M1.

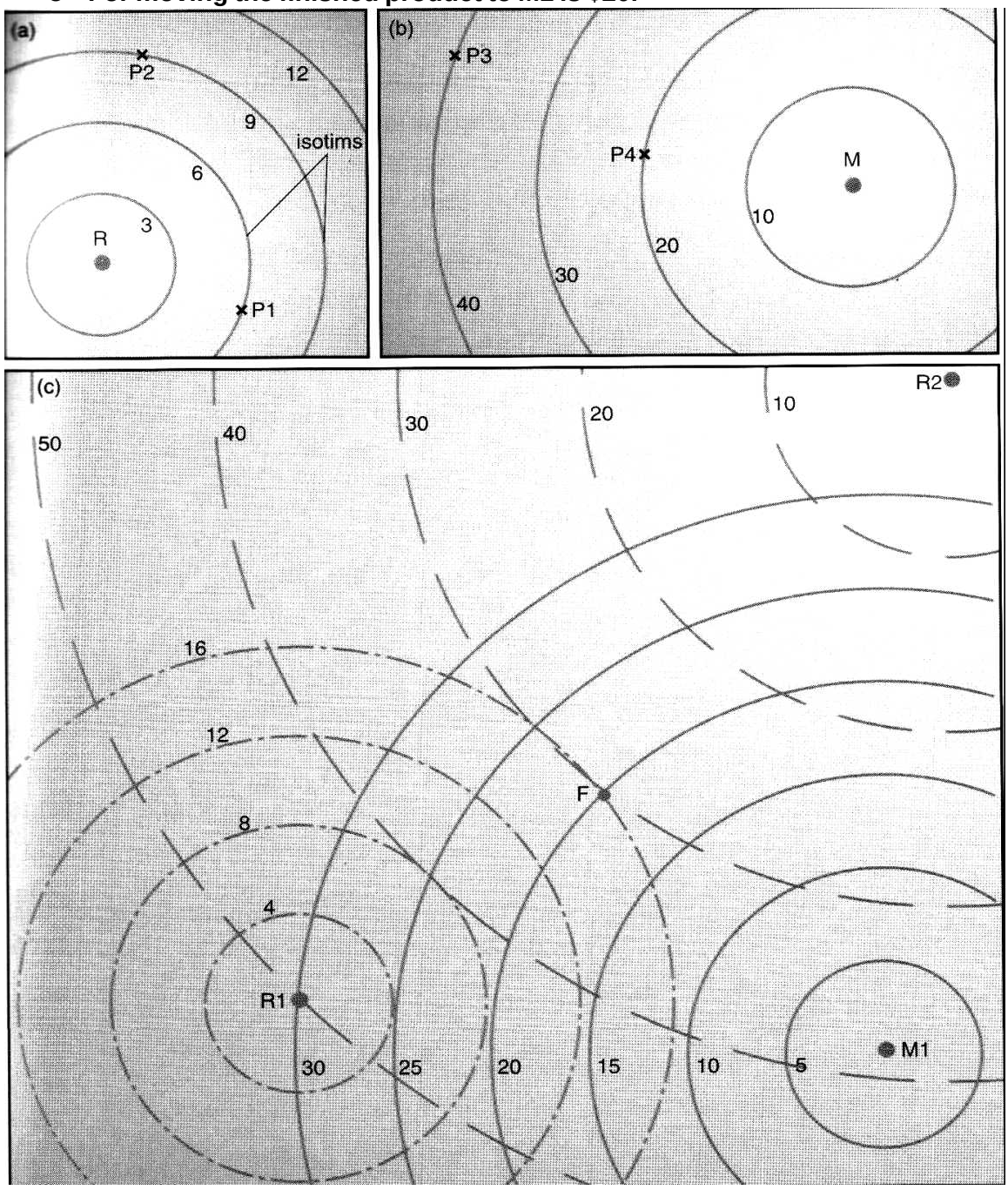
Hint:

GIVEN:
Obtain raw material → Transport the raw material
Factory site is at F.

Observe the key on the transport cost from various places.
Locate the intersection lines at F. (Act as a pivot that never moves)
Use the key now to see the transport cost of R1, R2, and M1 respectively.

TRANSPORT COST:

- ⊕ **For the raw material from R1 is $ 16.**
- ⊕ **For the raw material from R2 is $ 30.**
- ⊕ **For moving the finished product to M1 is $20.**



KEY:

- o **R1 location of raw materials**
- o **R2 location of raw materials**
- o **M1 location of market**
- o **F a possible site for factory**

Transport cost for raw material from R1

Transport cost for raw material from R2

Transport cost to move end product to M1

All transport costs are in $.

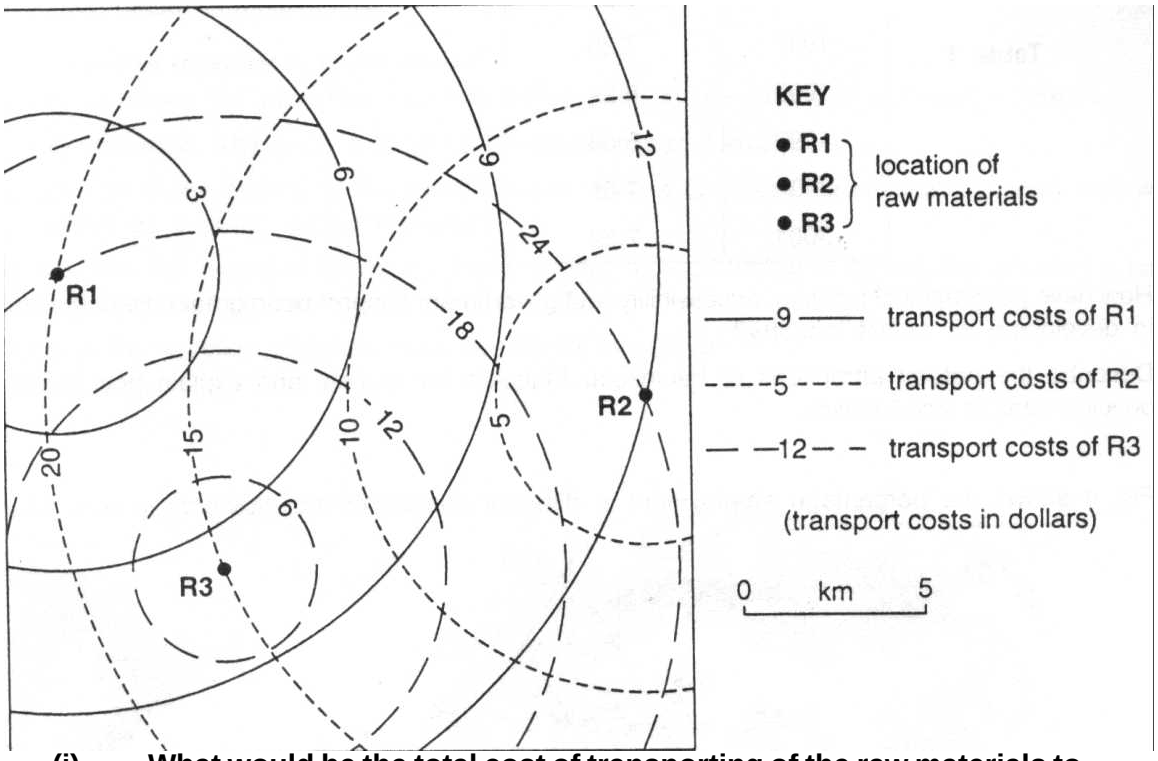
NOW ON YOUR OWN:

(b) Using the same figure, what would be the total transport cost if the factory were sited at *R1* instead?

MISCELLANOUS PRACTICE:

1. O LEVEL GEOGRAPHY ELECTIVE NOVEMBER 2002 PAPER [Q 3(a)]

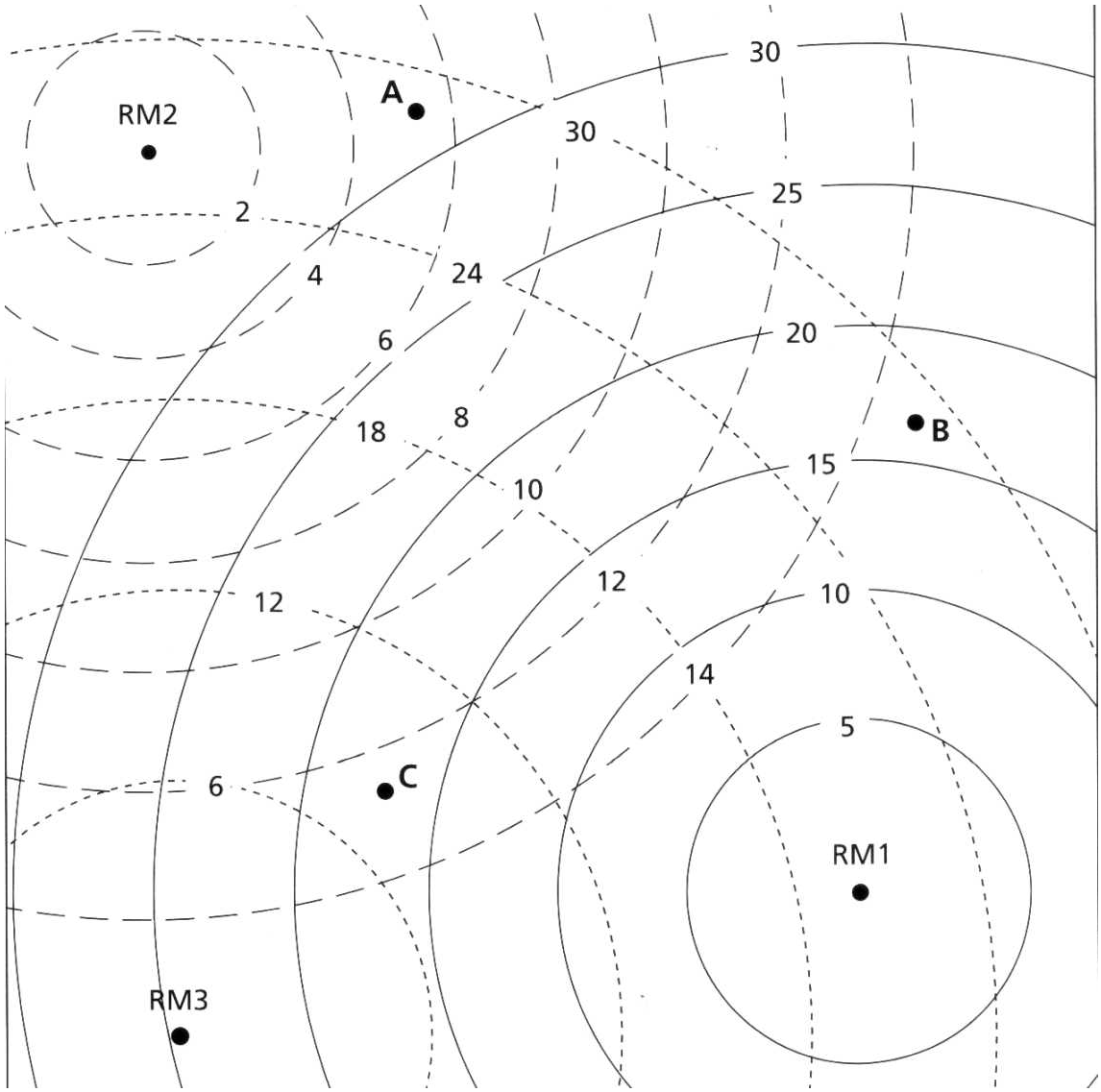
The diagram below shows the source of 3 different raw materials at R1, R2 and R3 used by an integrated iron and steel works.



(i) What would be the total cost of transporting of the raw materials to each of the locations R1, R2 and R3?

(ii) Which of the three locations R1 or R2 or R3 would be the best location for iron and steel works? Justify your choice.

2. In the diagram below, RM 1, 2 and 3 are sources of raw materials required by a manufacturer. A, B and C are potential sites for locating his factory. The cost for transporting the raw materials from their sources varies. Determine the most cost-effective location for the factory and justify your choice using the total cost of transporting RM 1, 2 and 3 to each possible location.


RM2
A
30
30
25
2
4
24
6
20
18
8
B
15
10
12
12
10
14
5
6
C
RM1
RM3