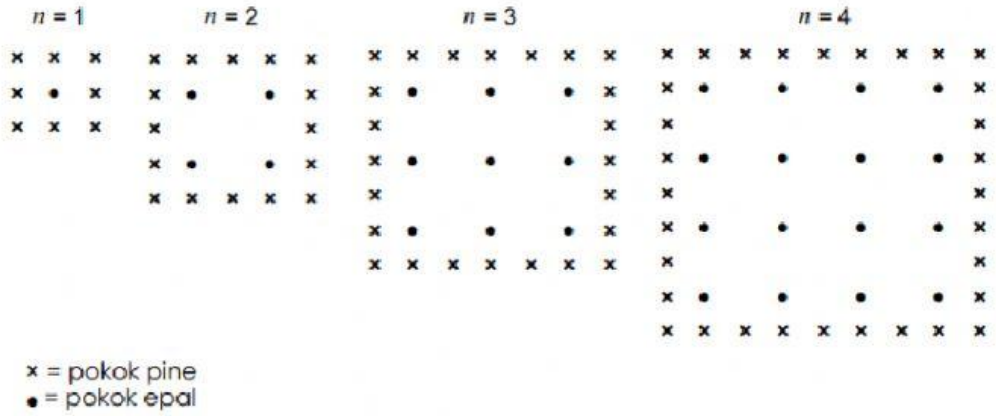
Name: **Class:**

Question 1:

A farmer plants apple tree in a square pattern. To protect the apple tree against the wind he plants conifer trees all around the orchard.

Here you see a diagram of this situation where you can see the pattern of apple trees and conifer trees for any number (n) of rows of apple trees:



(a) Complete the table

n	Number of apple trees	Number of conifer trees
1	1	8
2	4	
3		
4		
5		

(4 mark)

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(b) There are two formulae you can use to calculate the number of apple trees and the number of conifer trees for the pattern describe above:

Number of apple trees = n^2

Number of conifer trees = 8n

Where n is the number of rows of apple trees

There is a value of n for which the number of apples trees equals the number of conifer trees. Find the value of n and show your method of calculating this

n =

Show your method:

(3 mark)

(c) Suppose the farmer wants to make a much larger orchard with many rows of trees. As the farmer makes the orchard bigger, which will increase more quickly: the number of apple trees or the number pf conifer trees? Explain how you found your answer.

Answer =

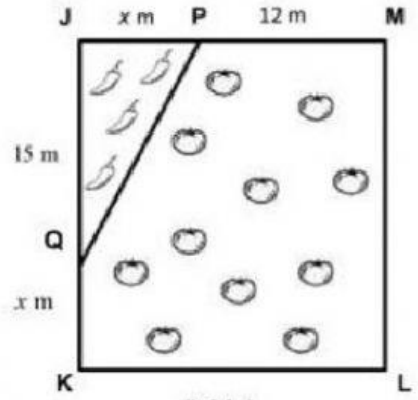
Explain your answer:

(3 mark)

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Question 2

The Diagram 4 below show vegetable farm of chilies and tomatoes in rectangle form JKLM. Given that JP = KQ = X m. There are iron fences at the whole area farm.



Rajah 4
Diagram 4

(a) Evaluate an expression for farm area, L m^2 in term of x

Calculation, L = ☐

= ☐

Answer, = ☐

(b) Given that area of the farm in rectangles is 460 m^2. Find the value of x.

☐ = 460

☐ = 0

☐ = 0

(☐) (☐) = 0

Answer, X = ☐

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(c) Safwan wants to build a fence to separate the area of chili vegetables with tomatoes at point P to point Q. If the price of the fence is RM50 per meter and Safwan has a budget of RM 1000. State whether Safwan has a sufficient budget to build the fence and give the total cost. Explain your answer

C $\sqrt{}$ =

= $\sqrt{}$

= $\sqrt{}$

Length of PQ, =

Total Cost to build the fence from point P to point Q,

=

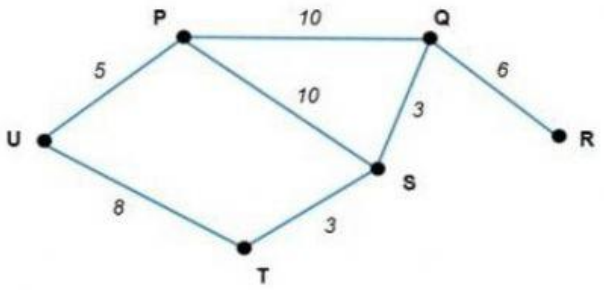
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As a conclusion, the budget to build the fence is

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Question 3

The Graph 4 below shows indirect weighted graph.



Graf 4
Graph 4

(a) Complete Table 4 below:

Vertex Pair	Weight
(P, Q)	10
(P, S)	
(P, U)	
(Q, R)	
(Q, S)	
(U, T)	
(S, T)	

(b) (i) List **THREE** routes option from point U to R instead of the route mentioned.

U -> P -> Q -> R

=

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(ii) State the shortest distance route from point U to R

Answer, =

(c) If a line is drawn between point P to point T, and PUT forms a right-angled triangle with an angle of PUT is 90°. Find the length of point P to point T.

C = $\sqrt{}$

= $\sqrt{}$

= $\sqrt{}$

Answer, =

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