

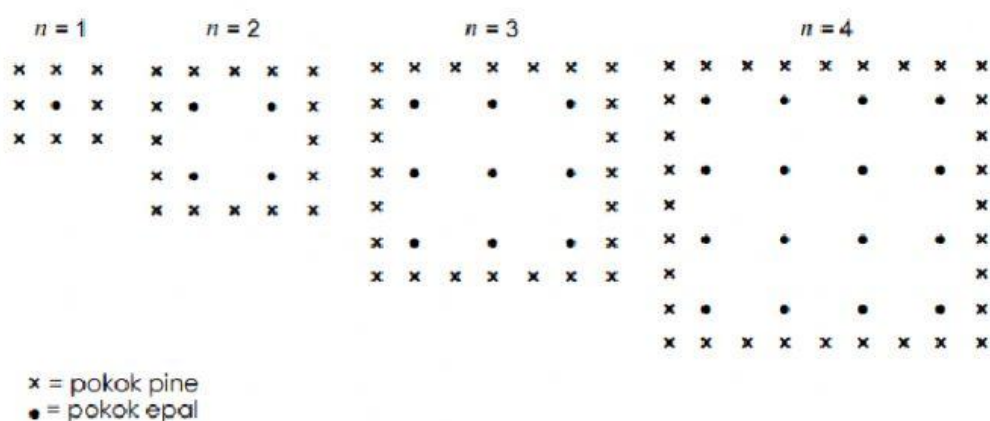
Name:

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)

- (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:

$$\text{Number of apple trees} = n^2$$

$$\text{Number of conifer trees} = 8n$$

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.

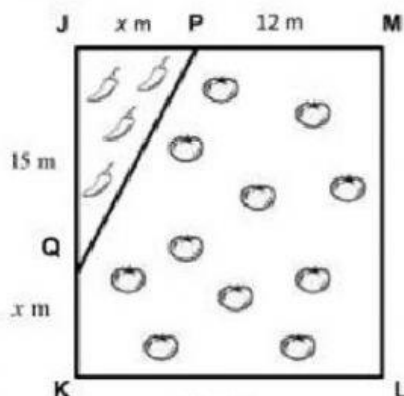
Answer =

Explain your answer:

(3 mark)

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, $L \text{ m}^2$ 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 .

$=$

$=$

$=$

$=$

Answer, $x =$

- (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

$$C = \sqrt{\quad}$$

$$= \sqrt{\quad}$$

$$= \sqrt{\quad}$$

Length of PQ, =

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

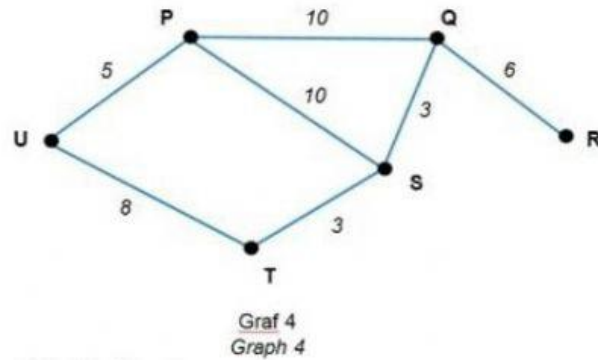
$$= \text{$$

$$= \text{$$

As a conclusion, the budget to build the fence is

Question 3

The Graph 4 below shows indirect weighted graph.



(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

=

(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 =

=

=

Answer, =