

- (b) Use the matrices you have formed in (a) to determine the total amount of money the car dealer earned from the car sales. (08 marks)

16. Triangle ABC with vertices $A(1,2)$, $B(1,4)$ and $C(3,3)$ is reflected in the line $y = 0$ to give an image $A'B'C'$. Triangle $A'B'C'$ is then rotated through a positive quarter turn about $(1, -1)$ and mapped onto $A''B''C''$.

- (a) On the same axes, draw triangles ABC , $A'B'C'$ and $A''B''C''$. (Use a scale of 2 cm: 1 unit on both axes). (06 marks)

- (b) State the coordinates of:

(i) A' , B' and C' .

(ii) A'' , B'' and C'' .

(06 marks)

17. There are 154 supporters of a soccer team who have Shs200,000. All the supporters have to accompany their team for a match. They are to hire a bus and a taxi. The capacity of the bus is 42 people while that of the taxi is 14 people. Each trip on the bus and the taxi costs Shs30,000 and Shs20,000 respectively. The number of trips made by the taxi must exceed those made by the bus by at least 3.

If x and y are the number of trips made by the bus and taxi respectively;

- (a) Write down **five** inequalities representing the information. (04 marks)

- (b) (i) Plot the inequalities on the same axes.

- (ii) By shading the unwanted region show the region satisfying all the inequalities. (06 marks)

- (c) Use your graph to determine the number of trips that each vehicle should make so as to spend the least amount of money. (02 marks)

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