

QUESTION ONE

Abdullah makes and sells two types of hats: beanies and caps.

Abdullah can make a maximum of 45 hats per week.

He must make at least twice as many caps as beanies.

He can only make a maximum of 33 caps and needs to make a minimum of 5 beanies

Abdullah makes \$14 profit on a beanie and \$18 profit on a cap.

Calculate how many of each type of hat Abdullah should make each week in order to maximise his profit.

QUESTION TWO

Carmia's shop makes two types of chairs: chairs with wooden seats and chairs with soft seats.

	Number of each item made	Time to make each item (mins)	Cost of materials per item (\$)	Profit per item (\$)
Wooden seat	x	90	42	20
Soft seat	y	60	84	16

Carmia's shop can only work on making her chairs for a maximum of 120 hours per week

and can only afford to spend a total of \$6720 on materials to make the chairs.

She already has orders for 20 chairs with wooden seats and 48 chairs with soft seats.

Calculate how many of each type of seat Carmia should produce per week, in order to maximize her profit.