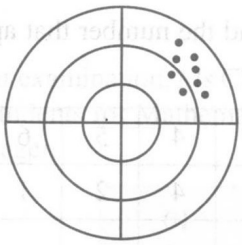
16. In a shop, customers who spend at least \$50 in a single purchase are entitled to a scratch-and-win cash draw. The cash prize in each draw is \$0, \$5, \$10 or \$20. The following table shows the draw results during a 1-hour interval.

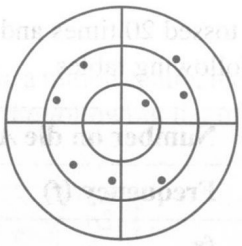
Cash prize (\$)	0	5	10	20
Frequency	$w + 5$	$w + 6$	$w - 1$	w

(a) Calculate the value of w if the mode and mean are the same.
(b) Hence, find the standard deviation of the cash prizes won.

17. Two NCC cadets, Sasi and Bishal, each fired 8 shots during a live firing session. The following diagrams show the positions of their shots on their respective target boards.



Positions of Sasi's shots on target board



Positions of Bishal's shots on target board

(a) A cadet is considered to have fired well if the positions of his shots are close to the centre of the target board. Which of the two cadets is the better firer?
(b) Which of the two cadets is more consistent in terms of the position of each shot?
(c) The NCC teacher-in-charge can only select one of the two cadets to undergo an intensive training for the inter-unit firing competition.
Which of the two cadets should the teacher-in-charge select? Explain your answer.

18. The daily sales of computer games of an IT company in a week during the mid-year school holidays and a week during the final-year school holidays are shown in the following table.

	Mon	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
Daily sales of computer games in a week during the mid-year school holidays	44	58	47	49	45	50	57
Daily sales of computer games in a week during the final-year school holidays	54	58	52	46	48	55	58

(a) Find the mean and the standard deviation of the daily sales of computer games in the week during
(i) the mid-year school holidays,
(ii) the final-year school holidays.
(b) **(i)** On average, during which period is the sales better?
(ii) Give a possible reason for the answer in **(i)**.
(c) In which period is there greater variation in daily sales?