# Exercise 3

Paper 2 style · Graphic display calculator

## 3 5 marks SL 4.3 ●●○ Typical

The masses, $m$ kg, of 40 parcels are grouped below.

| $m$ | $0 < m \leq 2$ | $2 < m \leq 4$ | $4 < m \leq 6$ | $6 < m \leq 8$ | $8 < m \leq 10$ |
|---|---|---|---|---|---|
| frequency | 3 | 9 | 14 | 10 | 4 |

**(a)** Write down the modal class. **[1]**

**(b)** Find an estimate of the mean mass. **[2]**

**(c)** Find an estimate of the standard deviation of the masses. **[2]**

The markscheme is on the next page: try the question first. Written and verified by a practising IB mathematics teacher, produced with AI assistance; solved twice and recomputed by software. Not affiliated with or endorsed by the International Baccalaureate Organization.
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**MARKSCHEME (a)**

$4 < m \leq 6$ **A1**

**Total 1 mark**

**MARKSCHEME (b)**

mid-interval values 1, 3, 5, 7, 9 **(M1)**

5.15 kg **A1**

**Total 2 marks**

**MARKSCHEME (c)**

2.16 kg (2.16275 . . .) **A2**

**Total 2 marks**