15. Statistics

Analysing and visualising business data

> **James set up a small online store reselling items that he thinks are likely to be popular amongst his peer group. He created an eye-catching website, grew an engaged audience on social media and carefully chose stock that he felt would be popular amongst his target audience.**

Page 5 shows a dashboard of the businesses performance for the first 12 months after launch. Using the dashboard, answer the following questions about the company's performance.

1. Comment on the company's monthly sales performance.

2. Which month saw the company enjoy the highest sales?

3. What proportion of total sales were hoodies?

4. How much sales revenue did hoodies generate?

5. In which month were the most logo t-shirts sold?

6. What is the profit margin for each product the company sells? Profit margin is expressed as a percentage.

Hint: profit margin = profit (price less cost) / sales price

7. For each graph, state the name of the type of graph used and comment on whether the company has chosen an appropriate way to visualise the data:
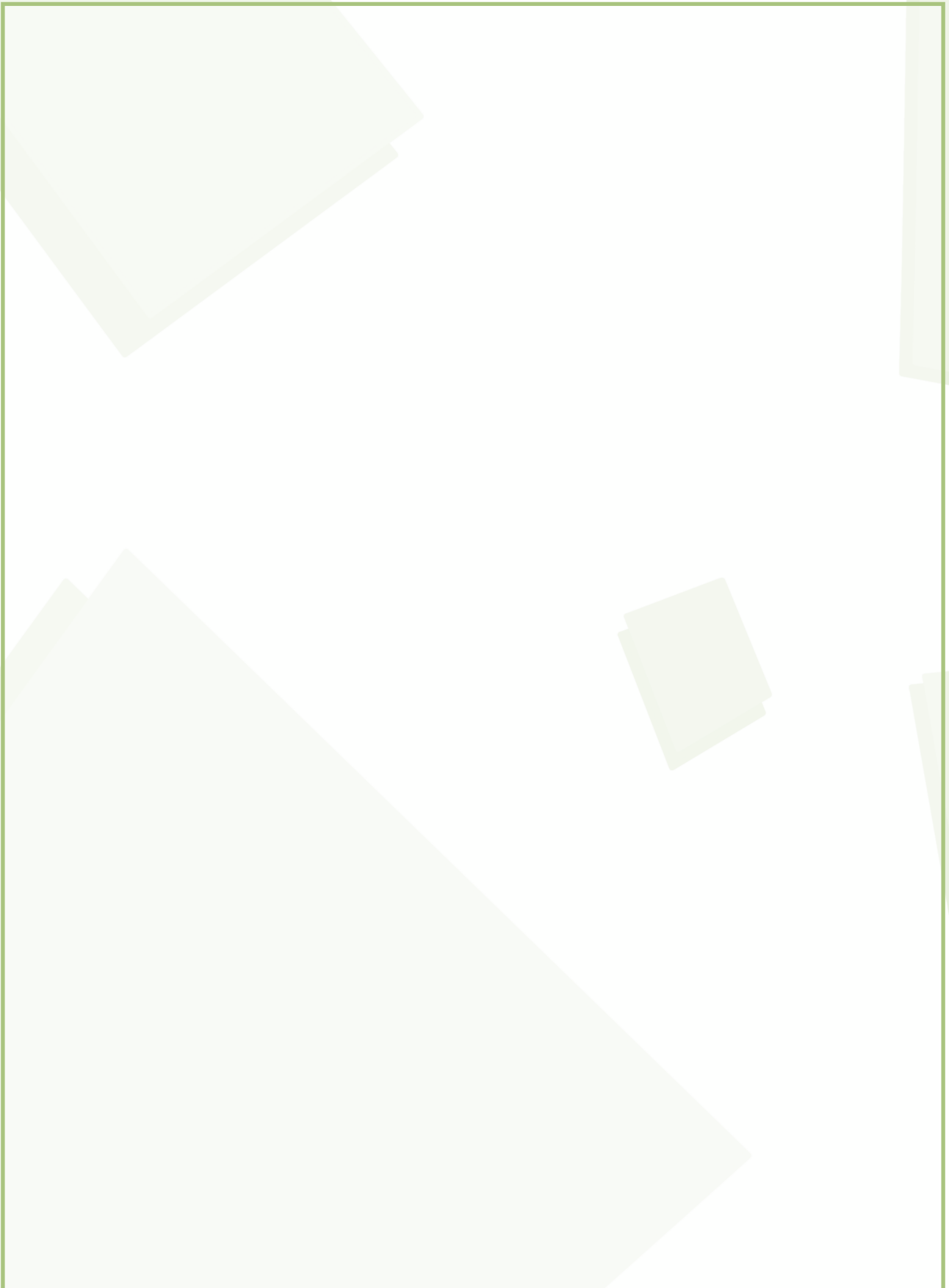
a. Total monthly sales

b. Sales mix by product

c. Monthly sales by product

d. Volume of items sold per month

8. Draw a graph that shows the breakdown of the total sales price of the full zip fleece into its associated costs and profit.

Dashboard: Business Performance

Total monthly sales

Total sales by month

Sales mix by product

- T-shirt - logo
- T-shirt - graphic
- Hoodie
- Full zip fleece
- Cap
- Socks
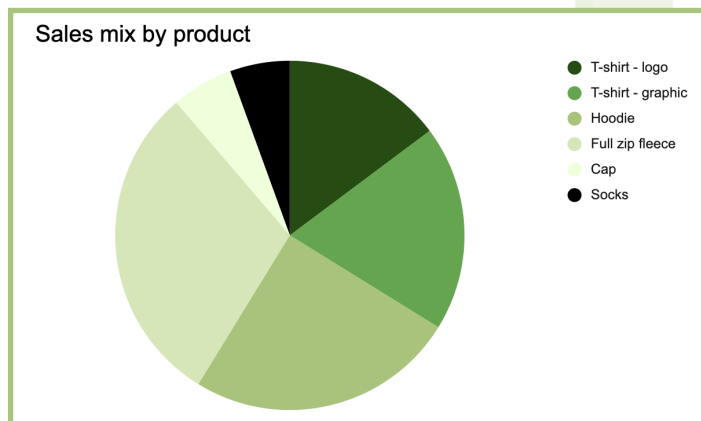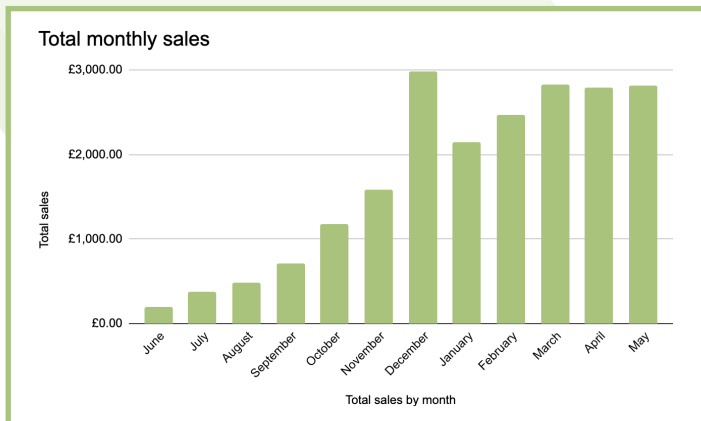
	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Total
Total sales	£202	£383	£488	£715	£1,172	£1,587	£2,985	£2,145	£2,463	£2,832	£2,786	£2,817	£20,575

Product costs	T-shirt - logo	T-shirt - graphic	Hoodie	Full zip fleece	Cap	Socks
Cost to purchase inventory	£11.50	£16.50	£22.10	£33.75	£6.80	£1.75
Shipping	£3.26	£3.26	£4.50	£4.45	£3.20	£1.34
Packaging	£1.80	£1.80	£2.30	£2.30	£0.80	£0.90
Total cost per item	**£16.56**	**£21.56**	**£28.90**	**£40.50**	**£10.80**	**£3.99**

Sales price per product	T-shirt - logo
T-shirt - logo	£18.00
T-shirt - graphic	£22.00
Hoodie	£34.00
Full zip fleece	£45.00
Cap	£12.00
Socks	£4.20

Monthly sales by product

- T-shirt - logo
- T-shirt - graphic
- Hoodie
- Full zip fleece
- Cap
- Socks

Volume of items sold per month

Volume of items sold

- T-shirt - graphic
- Hoodie
- Full zip fleece
- Cap
- Socks
- T-shirt - logo