

# Year 11 revision - week beginning March 24<sup>th</sup>



Revision book - read through and refresh your knowledge of pages 18-24 and 54-58

Formulas-

Breakeven calculation = fixed costs divided by contribution

(contribution = Selling price - variable cost)

Profit = total revenue minus total costs

(total costs = fixed costs + variable costs)

1/

A business has the following cost and revenue information during one month:

**Costs:**

- £10 000 - raw materials imported from the USA
- £ 7 000 - raw materials from the UK
- £11 000 - fixed costs

**Revenue:**

- £39 000

In this month the exchange rate between the pound and the dollar was £1 = \$1.50

What profit/loss does the business make in this month?

Select **one** answer:

- A  £11 000
- B  £28 000
- C  £29 000
- D  £67 000

2/

The following table shows Hayley's cash flow forecast for April to June.

7 Fill in the **four** blanks to complete the table.

	April	May	June	
Receipts (£)	17 000		22 000	(1)
Payments (£)				
Raw materials	8 500	10 000	11 000	
Fixed costs	2 000	2 000		(1)
Other costs	3 400	4 100	3 900	
Total payments	13 900	16 100	16 900	
Net cash flow		3 900	5 100	(1)
Opening balance	1 500	4 600	8 500	
Closing balance	4 600		13 600	(1)

3/

Fill in the **four** blanks to complete the table.

	April	May	June	
Total revenue	£3 700	£3 400	(iv)	(1)
Fixed costs	(i)	£900	£900	(1)
Variable costs	£1 700	£1 600	£1 500	
Total costs	£2 600	(iii)	£2 400	(1)
Profit	(ii)	£900	£1 100	(1)

4/

The following table shows his revenue, costs and profit/loss for three months.

4 Fill in the **three** blanks to complete the table.

	October	November	December	
Revenue	£11 750		£ 4 000	(1)
Variable costs	£ 5 000	£ 6 750		(1)
Fixed costs	£ 3 500	£ 3 500	£ 3 500	
Total costs	£ 8 500	£10 250	£ 4 775	
Profit/loss		£ 2 300	-£ 775	(1)

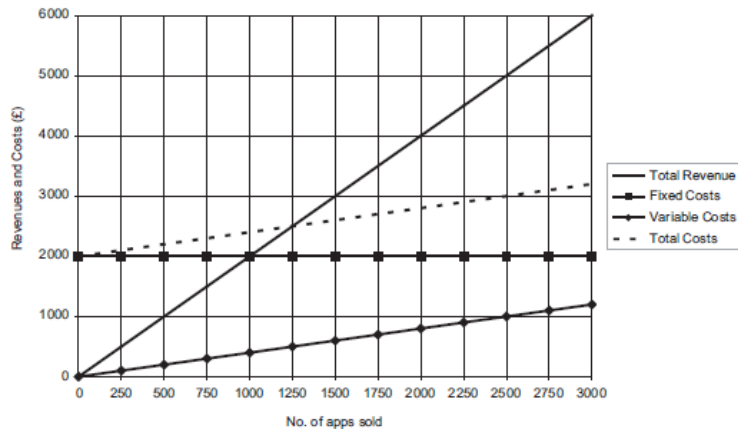
5/

*Shiftyjelly* is currently designing a new weather app for tablet computers such as *Apple's* iPad. The company wants to sell the app for £2. The estimated costs of developing the app are:

Fixed costs = £2 000

Variable costs = 40p per app

Below is a break-even chart for the new weather app.



(Source: adapted from <http://shiftyjelly.com>, June 2011)

- (b) (i) Using the break-even chart, state the number of apps *Shiftyjelly* must sell in order to break-even.

(1)

- (ii) *Shiftyjelly* is expecting to sell 3000 copies of its weather app. Calculate the margin of safety for this product. Show your workings.

(2)

- (c) Calculate *Shiftyjelly's* profit/loss if it manages to sell 3000 copies of its weather app. Show your workings and the formula used.

(3)

## Parent Help Sheet and Answers

1/ A

$$\text{costs} = 10,000 + 7,000 + 11,000 = 28,000$$

$$\text{Revenue} = 39,000$$

$$£39,000 - 28,000 = £11,000$$

2/

$$\text{May Receipts} - 20,000 \quad (\text{Net cashflow} + \text{total payments})$$

$$\text{June fixed costs} - 2,000 \quad (\text{total payments} - \text{other costs} - \text{raw materials})$$

$$\text{April net cashflow} - 3,100 \quad (\text{receipts} - \text{total payments})$$

$$\text{May closing balance} - 8,500 \quad (\text{net cashflow} + \text{opening balance})$$

3/

$$\text{April fixed costs} - 900 \quad (\text{total costs} - \text{variable costs})$$

$$\text{April profit} - 1,100 \quad (\text{total revenue} - \text{total costs})$$

$$\text{May total costs} - 2,500 \quad (\text{fixed costs} + \text{variable costs})$$

$$\text{June total revenue} - 3,500 \quad (\text{profit} + \text{total costs})$$

4/

$$\text{October profit} - 3,250 \quad (\text{revenue} - \text{total costs})$$

$$\text{November revenue} - 12,550 \quad (\text{profit} + \text{total costs})$$

$$\text{Dec variable costs} - 1,275 \quad (\text{total costs} - \text{fixed costs})$$

5b/

Answer	Mark
1 mark for stating 1 250 apps.  If the candidate simply writes '1250' then this should also be awarded 1 mark.	(1)

Answer	Mark
1 mark for showing workings and 1 mark for the correct answer.  3 000 apps - 1 250 apps  therefore:  Margin of safety = 1 750 apps	

c/

Answer	Mark
<p>1 mark for the identification of the formula, 1 mark for workings and 1 mark for the correct answer.</p> <p>Profit = Revenue – Total Costs</p> <p>therefore:</p> <p>Revenue = 3 000 × £2 = £6 000</p> <p>Total costs = (3 000 × £0.40) + £2 000 = £3 200</p> <p>therefore:</p> <p>Profit = £6 000 - £3 200 = £2 800</p> <p>Also reward candidates with full marks if they multiply contribution per unit £1.60 by the number of units above the break-even point (i.e. 1 750 units) to reach the answer (assuming they have stated a formula).</p> <p>Full marks should be awarded if the candidate simply states '2 800' as their response, even if they do not state any workings/formula, since by arriving at the correct answer the candidate would have demonstrated an inherent understanding of the concept.</p>	<p>(3)</p>