

GRADE 11 MATHEMATICAL LITERACY

Cost Price and Selling Price

Learner Questions and Separate Memorandum

TOPICS

Cost of producing/manufacturing
Fixed and variable costs
Cost per usable item
Choosing an appropriate selling price

CAPS-aligned original practice material

SECTION A: LEARNER QUESTIONS

Instructions

1. Answer all questions. 2. Show every calculation. 3. Use a calculator where necessary. 4. Round money to two decimal places unless the context requires otherwise. 5. Include rand signs and appropriate units.

Question 1: Cost of one sandwich

[5 marks]

A sandwich requires bread costing R3,20, cheese costing R4,50, margarine costing R0,80 and packaging costing R1,00.

1.1 Calculate the production cost of one sandwich. (4)

1.2 State whether R8,00 would cover the production cost. Give a reason. (1)

Question 2: Cost per vetkoek

[7 marks]

A learner makes 30 vetkoeks. Flour costs R36, yeast R8, oil R42, filling R120 and packaging R24.

2.1 Calculate the total production cost. (5)

2.2 Calculate the production cost per vetkoek. (2)

Question 3: Using part of a bulk packet

[5 marks]

A 2 kg packet of flour costs R32. A baker uses 750 g of flour.

3.1 Convert 2 kg to grams. (1)

3.2 Calculate the cost of the 750 g of flour used. (4)

Question 4: Cost of beads

[5 marks]

A bottle containing 600 beads costs R48. One bracelet requires 75 beads.

4.1 Calculate the cost of one bead. (2)

4.2 Calculate the cost of the beads used for one bracelet. (3)

Question 5: Manufacturing printed T-shirts

[7 marks]

A business produces 40 printed T-shirts.

Expense	Amount
Blank T-shirts	R2 800
Printing ink	R420
Labour	R600
Packaging	R180

5.1 Calculate the total production cost. (5)

5.2 Calculate the production cost per T-shirt. (2)

Question 6: Including running costs

[10 marks]

A bakery produces 500 loaves per month.

Expense	Amount
Ingredients	R4 500
Packaging	R500
Production labour	R2 000
Rent	R1 500
Electricity and water	R750
Advertising	R250

6.1 Calculate the total production costs. (3)

6.2 Calculate the total running costs. (3)

6.3 Calculate the complete monthly cost. (2)

6.4 Calculate the complete cost per loaf. (2)

Question 7: Fixed and variable costs

[9 marks]

A baker pays R450 per week for electricity and water. Each loaf costs R4 to produce.

- 7.1 Identify the fixed weekly cost. (1)
- 7.2 Calculate the total cost of producing 60 loaves. (3)
- 7.3 Calculate the total cost of producing 120 loaves. (3)
- 7.4 Write a formula for total cost C when n loaves are produced. (2)

Question 8: Labour charged per hour

[7 marks]

A carpenter produces 10 stools. Wood costs R1 250, screws and varnish cost R350, and workshop electricity costs R200. The carpenter works for 8 hours at R75 per hour.

- 8.1 Calculate the labour cost. (2)
- 8.2 Calculate the total cost of producing the stools. (3)
- 8.3 Calculate the cost per stool. (2)

Question 9: Wastage and usable products

[6 marks]

A bakery spends R1 200 producing 100 cupcakes. Ten cupcakes are damaged and cannot be sold.

- 9.1 Calculate the number of usable cupcakes. (2)
- 9.2 Calculate the actual cost per usable cupcake. (3)
- 9.3 Explain why the bakery should not divide R1 200 by 100 when setting its selling price. (1)

Selling Price

Question 10: Adding a mark-up amount

[4 marks]

A product costs R80 to manufacture. The business adds a mark-up amount of R24.

10.1 Calculate the selling price. (2)

10.2 Calculate the amount earned above cost on each product. (2)

Question 11: Adding a percentage mark-up

[6 marks]

A school bag costs a retailer R240. The retailer adds a mark-up of 25% of the cost price.

11.1 Calculate the mark-up amount. (3)

11.2 Calculate the selling price. (3)

Question 12: Selling price with a 40% mark-up

[6 marks]

A cake costs R150 to produce. The baker adds a 40% mark-up on cost.

12.1 Calculate the mark-up amount. (3)

12.2 Calculate the selling price. (3)

Question 13: Comparing possible selling prices

[7 marks]

A learner produces bracelets at a complete cost of R36 each. Three nearby sellers charge R48, R52 and R55. The learner considers charging R50.

13.1 Calculate the amount earned above cost on each bracelet at R50. (2)

13.2 State whether R50 may be an appropriate selling price. Give two reasons. (3)

13.3 Name one other factor that should be considered before choosing the price. (2)

Question 14: An inappropriate selling price

[6 marks]

The complete cost of a lunch pack is R42. A seller wants to charge R40 and expects to sell 80 lunch packs.

- 14.1 Calculate the loss per lunch pack. (2)
- 14.2 Calculate the total loss if all 80 packs are sold. (2)
- 14.3 Explain why R40 is an inappropriate selling price. (2)

Question 15: Selecting between prices

[7 marks]

A business makes candles at a complete cost of R45 each. It considers selling each candle for R40, R45 or R60.

- 15.1 For each proposed price, calculate the amount above or below cost. (3)
- 15.2 Which price is the most suitable of the three? Give a reason. (2)
- 15.3 Give one reason why the business should still research competitors' prices. (2)

Question 16: Effect of production level

[10 marks]

A business has fixed monthly costs of R2 400 and a variable cost of R18 per item.

- 16.1 Calculate the total cost of producing 200 items. (3)
- 16.2 Calculate the cost per item when 200 items are produced. (2)
- 16.3 Calculate the total cost of producing 400 items. (3)
- 16.4 Calculate the cost per item when 400 items are produced. (2)

Question 17: Comparing suppliers

[8 marks]

A baker needs 20 kg of flour.

Supplier	Package and price
A	5 kg for R78
B	10 kg for R150
C	20 kg for R310

17.1 Calculate the cost of obtaining exactly 20 kg from each supplier. (6)

17.2 Identify the cheapest supplier, assuming quality and delivery conditions are the same. (2)

Question 18: Including delivery costs

[6 marks]

Supplier A charges R2 400 for materials plus R180 delivery. Supplier B charges R2 500 for the same materials with free delivery.

18.1 Calculate the complete cost from Supplier A. (2)

18.2 Calculate the complete cost from Supplier B. (1)

18.3 Identify the cheaper supplier and calculate how much cheaper it is. (3)

TOTAL: 128 MARKS

SECTION B: MEMORANDUM

Accept equivalent calculation methods. Award method marks where the learner uses a correct method but makes a later arithmetic error.

Question 1: Cost of one sandwich

1.1 $R3,20 + R4,50 + R0,80 + R1,00 = \mathbf{R9,50}$.

1.2 No. R8,00 is R1,50 less than the production cost, so it would not cover the cost.

Question 2: Cost per vetkoek

2.1 $R36 + R8 + R42 + R120 + R24 = \mathbf{R230}$.

2.2 $R230 / 30 = R7,666... = \mathbf{R7,67}$ per vetkoek.

Question 3: Using part of a bulk packet

3.1 $2 \text{ kg} = \mathbf{2\,000 \text{ g}}$.

3.2 Cost per gram = $R32 / 2\,000 = R0,016$.

Cost used = $750 \times R0,016 = \mathbf{R12,00}$.

Question 4: Cost of beads

4.1 $R48 / 600 = \mathbf{R0,08}$ per bead.

4.2 $75 \times R0,08 = \mathbf{R6,00}$.

Question 5: Manufacturing printed T-shirts

5.1 $R2\ 800 + R420 + R600 + R180 = \mathbf{R4\ 000}$.

5.2 $R4\ 000 / 40 = \mathbf{R100}$ per T-shirt.

Question 6: Including running costs

6.1 Production: $R4\ 500 + R500 + R2\ 000 = \mathbf{R7\ 000}$.

6.2 Running: $R1\ 500 + R750 + R250 = \mathbf{R2\ 500}$.

6.3 $R7\ 000 + R2\ 500 = \mathbf{R9\ 500}$.

6.4 $R9\ 500 / 500 = \mathbf{R19}$ per loaf.

Question 7: Fixed and variable costs

7.1 **R450**.

7.2 $R450 + (60 \times R4) = R450 + R240 = \mathbf{R690}$.

7.3 $R450 + (120 \times R4) = R450 + R480 = \mathbf{R930}$.

7.4 **$C = 450 + 4n$** .

Question 8: Labour charged per hour

8.1 $8 \times R75 = \mathbf{R600}$.

8.2 $R1\ 250 + R350 + R600 + R200 = \mathbf{R2\ 400}$.

8.3 $R2\ 400 / 10 = \mathbf{R240}$ per stool.

Question 9: Wastage and usable products

9.1 $100 - 10 = 90$ usable cupcakes.

9.2 $R1\ 200 / 90 = R13,333... = R13,33$ per usable cupcake.

9.3 The damaged cupcakes cannot generate sales income. The full production cost must be recovered from the 90 sellable cupcakes.

Question 10: Adding a mark-up amount

10.1 $R80 + R24 = R104$.

10.2 The amount earned above cost is **R24 per product**.

Question 11: Adding a percentage mark-up

11.1 $25\% \times R240 = 0,25 \times R240 = R60$.

11.2 $R240 + R60 = R300$.

Question 12: Selling price with a 40% mark-up

12.1 $40\% \times R150 = 0,40 \times R150 = R60$.

12.2 $R150 + R60 = R210$.

Question 13: Comparing possible selling prices

13.1 $R50 - R36 = \text{R14 per bracelet}$.

13.2 Yes, it may be appropriate because it covers the R36 cost, gives R14 above cost and lies within the competitor range of R48 to R55. Any two valid reasons.

13.3 Any one valid factor, for example customer affordability, demand, quality, location or expected wastage.

Question 14: An inappropriate selling price

14.1 $R42 - R40 = \text{R2 loss per pack}$.

14.2 $80 \times R2 = \text{R160 total loss}$.

14.3 R40 does not cover the R42 complete cost, so every sale creates a loss.

Question 15: Selecting between prices

15.1 $R40 - R45 = \text{R5 below cost}$; $R45 - R45 = \text{R0}$; $R60 - R45 = \text{R15 above cost}$.

15.2 **R60**, because it covers the complete cost and provides R15 above cost.

15.3 Competitor research helps determine whether customers are likely to regard R60 as reasonable. Accept another valid reason.

Question 16: Effect of production level

16.1 $R2\ 400 + (R18 \times 200) = R2\ 400 + R3\ 600 = \mathbf{R6\ 000}$.

16.2 $R6\ 000 / 200 = \mathbf{R30\ per\ item}$.

16.3 $R2\ 400 + (R18 \times 400) = R2\ 400 + R7\ 200 = \mathbf{R9\ 600}$.

16.4 $R9\ 600 / 400 = \mathbf{R24\ per\ item}$. The fixed cost is spread over more items.

Question 17: Comparing suppliers

17.1 A: $4 \times R78 = \mathbf{R312}$.

B: $2 \times R150 = \mathbf{R300}$.

C: $1 \times R310 = \mathbf{R310}$.

17.2 **Supplier B** is cheapest at R300.

Question 18: Including delivery costs

18.1 $R2\ 400 + R180 = \mathbf{R2\ 580}$.

18.2 **R2 500**.

18.3 Supplier B is cheaper. $R2\ 580 - R2\ 500 = \mathbf{R80\ cheaper}$.