MARKING GUIDELINE

MARKS	DURATION	QUESTIONS
36	55 minutes	3

Name: _____ Class: _____

Date: _____

MARK ____ / 36

INSTRUCTIONS AND INFORMATION

1. Answer **ALL** the questions in this question paper.
2. Answer QUESTION 1 by **circling** the letter (A–D) in the answer grid at the end of that section.
3. Show **ALL** calculations clearly.
4. Show all units where applicable.
5. Number the answers correctly according to the numbering system used in this question paper.
6. A non-programmable calculator may be used, unless stated otherwise.
7. Write neatly and legibly.

QUESTION 1 [10 MARKS]

Four options are given as possible answers to the following questions. Choose the correct answer and circle the letter (A–D) in the grid at the end of this section. If you want to change your choice, put a cross through the wrong letter and circle your new choice.

1.1 R240 is shared in the ratio 3 : 5. The SMALLER share is ... (1)

A) R90 ✓ **B)** R80

C) R48 **D)** R150

Answer: A — $3 + 5 = 8$ parts, one part is R30, and $3 \times 30 = R90$.

- **B** — divided by 3 instead of by 8
- **C** — divided by 5
- **D** — that is the LARGER share

1.2 The ratio 20 : 30 in its simplest form is ... (1)

A) 20 : 30 **B)** 10 : 15

C) 1 : 2 **D) 2 : 3 ✓**

Answer: D — Divide both parts by the HCF, 10.

- **A** — not simplified at all
- **B** — divided by 2 only
- **C** — divided the parts by different numbers

1.3 A car travels 240 km in 3 hours. Its average speed is ... (1)

A) 720 km/h **B) 80 km/h ✓**

C) 243 km/h **D)** 60 km/h

Answer: B — Speed = distance ÷ time.

- **A** — MULTIPLIED instead of dividing
- **C** — added the two numbers
- **D** — divided by 4

1.4 If 5 pens cost R30, then 8 pens cost ... (1)

A) R6
B) R48 ✓
C) R38
D) R240

> **Answer: B** — One pen costs R6, so 8 pens cost R48.
> - **A** — that is the price of ONE pen
> - **C** — added R8 instead of scaling
> - **D** — multiplied 30 by 8

1.5 Concrete is mixed in the ratio cement : sand = 1 : 4. For 20 kg of sand you need ... (1)

A) 80 kg
B) 4 kg
C) 16 kg
D) 5 kg ✓

> **Answer: D** — Sand is 4 parts, so one part is 5 kg — and cement is 1 part.
> - **A** — multiplied instead of dividing
> - **B** — used the ratio number as the mass
> - **C** — subtracted 4 from 20

1.6 A recipe for 4 people uses 600 g of rice. For 6 people you need ... (1)

A) 400 g
B) 1 200 g
C) 900 g ✓
D) 800 g

> **Answer: C** — 150 g per person, so $6 \times 150 = 900$ g.
> - **A** — used 4 people again
> - **B** — doubled the amount
> - **D** — added 200 g instead of scaling

1.7 Two quantities in the ratio 2 : 3 have a total of 45. The larger is ... (1)

A) 27 ✓
B) 30
C) 18
D) 15

> **Answer: A** — 5 parts of 9, so the larger is $3 \times 9 = 27$.
> - **B** — divided 45 by 1,5
> - **C** — that is the SMALLER share
> - **D** — divided 45 by 3 instead of by the 5 parts

1.8 A tap fills 18 ℓ in 3 minutes. In 7 minutes it fills ... (1)

A) 42 ℓ ✓
B) 22 ℓ
C) 126 ℓ
D) 6 ℓ

> **Answer: A** — 6 ℓ per minute, so $7 \times 6 = 42$ ℓ.
> - **B** — added 4 ℓ instead of scaling
> - **C** — multiplied 18 by 7
> - **D** — that is the rate per minute

1.9 A RATE differs from a ratio because a rate compares quantities ... (1)

A) of the same kind
B) that are always whole numbers
C) that are always equal
D) of DIFFERENT kinds ✓

> **Answer: D** — km/h compares distance with time; a ratio compares like with like.
> - **A** — that describes a ratio
> - **B** — km/h is often not a whole number
> - **C** — a rate compares quantities that need not be equal

1.10 If 3 workers build a wall in 8 days, then 6 workers (working at the same rate) take ... (1)

A) 2 days
B) 16 days
C) 4 days ✓
D) 8 days

> **Answer: C** — Twice as many workers take half the time — an INVERSE proportion.
> - **A** — that would need 12 workers
> - **B** — that would be for HALF the workers
> - **D** — more workers must be faster

ANSWER GRID — MARKING GUIDELINE

1.1	(A)	B	C	D
1.2	A	B	C	(D)
1.3	A	(B)	C	D
1.4	A	(B)	C	D
1.5	A	B	C	(D)
1.6	A	B	(C)	D
1.7	(A)	B	C	D
1.8	(A)	B	C	D
1.9	A	B	C	(D)
1.10	A	B	(C)	D

QUESTION 2 [11 MARKS]

Answer the questions below. Show ALL your calculations.

2.1 Write the ratio 750 : 350 in its simplest form, and hence determine the larger share when R2 200 is divided in that ratio. (3)

> Divide both by the HCF, 50: **15 : 7** *(1)*
> The total number of parts is $15 + 7 = 22$ *(1)*
> $\frac{15}{22} \times 2\,200 =$ **R1 500** *(1)*

2.2 Divide 240 in the ratio 5 : 3 : 4. (4)

> Total parts = 12 *(1)*
> One part = $240 \div 12 = 20$ *(1)*
> **100 ; 60 ; 80** *(2)*

2.3 Ashley, Sipho and Zoe are aged 5, 4 and 2. They share R880 in the ratio of their ages. Calculate how much MORE Ashley receives than Zoe. **(4)**

> Total parts = 11, one part = R80 *(2)*
> Ashley 5×80 = R400; Zoe 2×80 = R160 *(1)*
> $400 - 160 =$ **R240** *(1)*

QUESTION 3 [15 MARKS]

Answer the questions below on rate.

3.1 A worker earns R900 for 6 hours of work. Calculate the rate per hour, and then what the worker earns for a 37-hour week. **(4)**

> $900 \div 6$ = R150 per hour *(2)*
> 150×37 *(1)* = **R5 550** *(1)*

3.2 Rice is sold as 2 kg for R50 or 3 kg for R72. Determine which is the better buy, and by how much per kilogram. **(4)**

> 2 kg: R25/kg *(1)*
> 3 kg: R24/kg *(1)*
> The **3 kg bag**, by **R1 per kilogram** *(2)*

3.3 A car travels at an average speed of 106 km/h for 2 hours 45 minutes. Calculate the distance travelled. **(3)**

> 2 h 45 min = 2,75 h *(1)*
> $106 \times 2{,}75$ *(1)* = **291,5 km** *(1)*

3.4 At what constant speed must that car travel to cover the same distance in 2 hours 35 minutes? Give your answer correct to TWO decimal places. **(4)**

> 2 h 35 min $= 2\frac{7}{12}\ h \approx 2{,}5833$ h *(1)*
>
> speed $= \frac{291{,}5}{2{,}5833}$ *(2)* = **112,84 km/h** *(1)*

TOTAL: 36 marks

This question paper consists of 3 questions.

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