

GOLD KEY

MATHEMATICS



GRADE 7

Volume 1
November 2016 - November 2019 Examinations

www.zimsec.co.zw

Foreword

The Zimbabwe School Examinations Council (ZIMSEC) presents Volume 1 of the Question and Answer Booklet at the Grade 7 Level. The Issue contains question papers and suggested answers for past examinations. In addition, there are notes that give clarification on the possible answers provided. Hopefully, both teachers and learners will find the material contained herein helpful in their preparation for examinations.



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ZIMSEC encourages all stakeholders and members of society to report any incidents of examinations malpractice, unethical business practices, plagiarism and corruption.

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- The Zimbabwe School Examinations Council (ZIMSEC) Subject panel
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Ashley

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PREAMBLE TO THE QUESTION AND ANSWER BOOKLET

This Question and Answer Booklet follows a format where there is a question paper and its relevant answers (Solution Guide). Learners can use the guide in preparation for examinations.

THE QUESTION PAPERS

The question papers are inserted as given in the examination session. They answer all assessment objectives as stated in the Primary School Mathematics National Syllabus.
Learners will be assessed on their ability to:-

1. recall, recognise and use mathematical symbols, terms and definitions;
2. carry out calculations accurately, with the aid of various technological devices;
3. estimate, approximate and use appropriate degree of accuracy;
4. read, interpret and use tables, charts and graphs;
5. solve mathematical problems showing steps and necessary information;
6. develop and use appropriate formulae and / or appropriate algorithms to solve problems;
7. interpret and apply Mathematics in life situations;
8. explore mathematical and scientific ideas and come up with innovations and conclusions and
9. demonstrate how people are influenced by mathematics.

NB: Candidates should read carefully the instructions on the front page of the question paper.

THE SOLUTION GUIDE PAPER 1

In Paper 1 each question has only one correct answer and others are distractors. The distractors are a result from misconceptions related to the question. Others are errors made during calculations in trying to obtain the correct answer

THE SOLUTION GUIDE PAPER 2

The solution guide will show the relevant shortest correct method to be used and the correct final answer. Learners are not limited to given methods.

- Most marks are given for an accurate result or statement from a correct method.
- Candidates are not limited to a specific method unless directed otherwise.
- The correct necessary working should be shown.
- Answers are accepted in the correct form with the relevant correct units, where applicable.
- Deleted work will not be marked.
- If two answers are given and none is deleted with only one acceptable, no marks are awarded.
- If two answers are given and none is deleted with both answers acceptable relevant marks will be awarded.
- Reversed answers will not score marks.
- In Section B if a candidate answers more than three questions, only the first three will be marked



ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

GRADE SEVEN EXAMINATION

MATHEMATICS PAPER 1

002/1

OCTOBER 2016 SESSION

Time: 2 hours

INSTRUCTIONS TO CANDIDATES

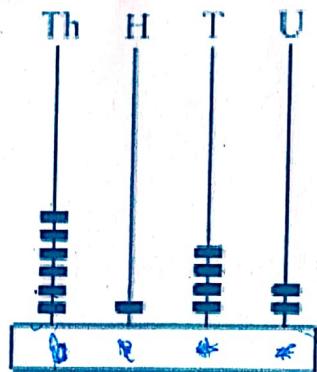
1. Read **all** the instructions carefully.
2. **Do not** open this booklet until you are told to do so by the invigilator.
3. Use only an HB pencil for all entries on the answer sheet.
4. When you are told to start, choose **one** correct answer from the suggested answers and shade it **very dark** as shown in the examples at the top of the answer sheet.
5. If you wish to change your answer, **erase it completely** with a pencil rubber and then shade the new choice.
6. If **more** than **one** box is shaded for any question, that answer will be regarded as **wrong**.
7. If you do not understand the instructions, ask the invigilator to explain them to you **before you start**.
8. Answer **all** the questions on the separate answer sheet provided.
9. Rough paper will be provided.

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1. Seventy thousand and eighty in figures is

- A. 7 008.
- B. 70 008.
- C. 70 080.
- D. 78 000.

2. The number shown on the abacus below is



- A. 6142.
- B. 4612.
- C. 2416.
- D. 6140.

3. $(10^1 \times 4) + (10^5 \times 6) + (10^3 \times 3) + (10^6 \times 9) =$

- A. 4 639
- B. 9 643.
- C. 46 390.
- D. 9 603 040.

4. Round off 249 999 to the nearest hundred.

- A. 250 000.
- B. 240 000.
- C. 260 000.
- D. 200 000.

5. 25,59 to the nearest whole number is

- A. 26,6.
- B. 26.
- C. 25,6.
- D. 25.

6. $7\frac{3}{4}$ as an improper fraction is

A. $\frac{21}{4}$.

B. $\frac{25}{4}$.

C. $\frac{28}{4}$.

D. $\frac{31}{4}$.

7. XLIV in Arabic numerals is

A. 44.

B. 64.

C. 66.

D. 94.

8. $1\frac{1}{4} \times 2\frac{1}{2} =$

A. $2\frac{1}{2}$.

B. $3\frac{1}{8}$.

C. $4\frac{1}{3}$.

D. $6\frac{3}{4}$.

9. $404,8 \div 0,8 =$

A. 50,06.

B. 50,6.

C. 56.

D. 506.

10. $14 \div 7 + 5 \times 2 =$

A. 7.

B. 9.

C. 12.

D. 14.

11. The product of 26 and 18 is

- A. 8.
- B. 44.
- C. 468.
- D. 428.

12. If 125 is increased by 10%, the result is

- A. 12.5.
- B. 112.5.
- C. 135.
- D. 137.5.

13. How many times can 32 be taken away from 256?

- A. 6
- B. 8
- C. 224
- D. 288

14. A number is doubled and 9 is added to get 21. The number is

- A. 3.
- B. 6.
- C. 12.
- D. 24.

15. If the multiplicand is 78 and the product is 312, then the multiplier is

- A. 4.
- B. 234.
- C. 366.
- D. 390.

16. $\frac{5}{8}$ expressed as a percentage is

- A. 12.5%.
- B. 27.5%.
- C. 62.5%.
- D. 75%.

17. $0.4 + 9 + 0.05 =$

- A. 9.54.
- B. 9.45.
- C. 1.80.
- D. 1.305.

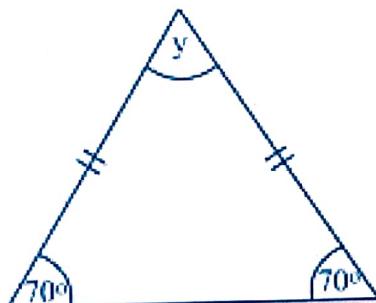
18. The sum of 8 litres and 4 millilitres in litres is

- A. 12 l.
- B. 8,400 l.
- C. 8,004 l.
- D. 4,008 l.

19. Express 12.05 midnight in 24-hour notation.

- A. 0005
- B. 0105
- C. 1205
- D. 2405

20. What is the size of angle y in the diagram below?



- A. 40°
- B. 60°
- C. 80°
- D. 140°

21. 0,25 of two hours in minutes is

- A. 25 minutes.
- B. 30 minutes.
- C. 40 minutes.
- D. 50 minutes.

22. $3\frac{1}{2} - 1\frac{5}{6} =$

A. $1\frac{1}{6}$.

B. $1\frac{1}{3}$.

C. $1\frac{2}{3}$.

D. $1\frac{5}{6}$.

23. Which of the following years is a leap year?

- A. 1930
- B. 1932
- C. 1934
- D. 1942

24. If the radius of a circle is 7 cm, then its diameter is

- A. 3.5 cm.
- B. 14 cm.
- C. 28 cm.
- D. 70 cm.

25. $\frac{2}{3} \times \frac{3}{4} + 1\frac{1}{2} =$

- A. $\frac{1}{3}$.
- B. $\frac{1}{2}$.
- C. $\frac{3}{4}$.
- D. $\frac{8}{9}$.

26. A motorist covered a distance of 400 km at an average speed of 80 km/h. How long did the motorist take to complete the journey?

- A. 4 h
- B. 5 h
- C. 6 h
- D. 12 h

27. How much simple interest would \$790 earn at 6% per annum for 18 months?

- A. \$86.10
- B. \$71.89
- C. \$71.10
- D. \$431.60

28. In a class of 40 pupils, $\frac{5}{8}$ of the pupils were present. How many pupils were absent?

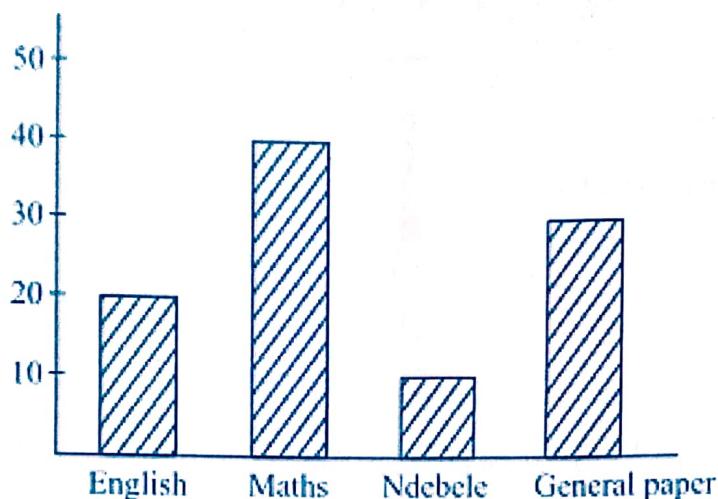
- A. 15
- B. 25
- C. 55
- D. 65

29. Sam's span is 15 cm. If the length of a chalkboard is 30 spans, its actual length is
- A. 0,02 m.
 - B. 0,15 m.
 - C. 0,45 m.
 - D. 4,5 m.
30. A man moulds 246 bricks in 1 hour. How many bricks does he mould in 40 minutes?
- A. 164
 - B. 123
 - C. 369
 - D. 82
31. A farmer had 3 black cows for every 4 brown cows. If the farmer had 28 cows altogether, how many were brown?
- A. 7
 - B. 12
 - C. 16
 - D. 21
32. A car has a net mass of 1,375 t. It carries goods weighing 0,871 t. Its gross mass is
- A. 2,346 t.
 - B. 2,246 t.
 - C. 1,504 t.
 - D. 0,504 t.
33. A rectangular plot is 6 acres. Its width is 30 m. What is the length of the plot?
[Hint: 1 acre = 4 000 m²]
- A. 2 m.
 - B. 50 m.
 - C. 200 m.
 - D. 800 m.
34. A vendor sold goods on 15% commission. If the vendor sold goods for \$3 800, how much was the commission?
- A. \$570
 - B. \$3 220
 - C. \$3 230
 - D. \$4 370

35. Thomas bought groceries for \$21,85. If he gave the shopkeeper three \$10 notes, his change was
- A. \$51,85.
 - B. \$19,85.
 - C. \$11,85.
 - D. \$8,15.
36. A bus left Shurugwi at 0750 hours and arrived in Gweru at 0835 hours. How long was the journey?
- A. 15 minutes
 - B. 25 minutes
 - C. 45 minutes
 - D. 85 minutes
37. A road is 2,5 cm on a map. If drawn to a scale of 1: 500, its actual length is
- A. 8,5 m.
 - B. 17,5 m.
 - C. 503,5 m.
 - D. 12,5 m.
38. Rudo covered a distance of 250 m in 1 minute. Her average speed in km/hr was
- A. 15.
 - B. 10.
 - C. 30.
 - D. 25.
39. A man had \$150,00 in his bank account. He deposited \$22,50 in March and withdrew \$75,80 in April. His balance was
- A. \$253,30.
 - B. \$172,50.
 - C. \$98,30.
 - D. \$96,70.
40. A car leaves Rusape at 1045 a.m. and arrives in Harare at 1245 p.m. If the car travels at an average speed of 84 km/h, the distance covered is
- A. 120 km.
 - B. 154 km.
 - C. 156 km.
 - D. 168 km.

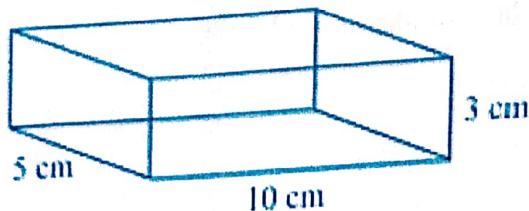
Use the graph to answer questions 41 and 42.

The bar graph below shows John's marks in 4 subjects.



41. The difference between John's marks in General Paper and Maths is
- A. 70.
 - B. 10.
 - C. 25.
 - D. 30.
42. John's average mark in the 4 subjects is
- A. 100.
 - B. 40.
 - C. 25.
 - D. 10.
43. A man bought a car for \$7 500. He paid 20% deposit and paid the balance in 12 months. His monthly instalment was
- A. \$9 000.
 - B. \$6 000.
 - C. \$1 500.
 - D. \$500.

44. The diagram shows a cuboid measuring 5 cm by 10 cm by 3 cm.



The volume of the cuboid is

- A. 150 cm^3 .
B. 80 cm^3 .
C. 18 cm^3 .
D. 30 cm^3 .
45. Talent bought 20 packets of yeast at \$5.65 each. Four packets were destroyed by rats.

Find the profit, if he sold the remaining packets at \$7.50 each.

- A. \$7.00
B. \$113
C. \$120
D. \$233
46. Mrs Ngandu had 500 cattle on her farm. She sold 40 to an abattoir and gave $\frac{1}{4}$ of the remainder to her son. How many cattle did she give to her son?

- A. 10
B. 115
C. 125
D. 135

Use the table to answer questions 47 and 48.

The table shows the number of babies born at a hospital in five days.

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Number of babies	14	10	12	7	6

47. How many babies were born at the hospital in the five days?
- A. 6
B. 39
C. 49
D. 70

48. The highest number of babies were born on

- A. Friday.
- B. Wednesday.
- C. Monday.
- D. Tuesday.

The information below shows the number of eggs laid by 20 chickens. Use it to answer questions 49 and 50.

5; 2; 3; 5; 4; 6; 5; 8; 2; 2;
8; 10; 10; 3; 2; 0; 5; 0; 6; 4;

49. What is the average number of eggs laid?

- A. 5
- B. 4.5
- C. 10.
- D. 4

50. The eggs were shared among Tom, Talent and Trevor in the ratio 2: 3: 5. What was Tom's share?

- A. 10
- B. 27
- C. 20
- D. 18

GRADE 7 MATHEMATICS PAPER 1 (002/1) OCTOBER 2016 MARKING GUIDE

Question	Key	Notes
1	C	
2	A	The figures as shown on the abacus
3	D	Deal with indices before multiplying, then add.
4	A	
5	B	'Nearest whole number' means there is no decimal comma.
6	D	Multiply 4 by 7 then add 3 to get the numerator.
7	A	XL represent 40 and IV represents 4.
8	B	Express as improper fractions first.
9	D	First do away with decimals by multiplying both the divisor and the dividend by 10
10	C	Use law of precedence. Divide, multiply then add.
11	C	'Product' means multiply.
12	D	'increased by' is the same as add, count on, plus, etc
13	B	This is the same as $256 \div 32$.
14	B	Reverse the operations. $(21-9)$ then divide by 2.
15	A	The relationship between the multiplicand, multiplier and the product is important. Divide 312 by 78.
16	C	Expressing as a 'percentage' means multiplying by 100.
17	B	Proper alignment is important.
18	C	Convert 4 millilitres to litres then add.
19	A	Idea of 24-hour notation is key, no dots.
20	A	Interior angles of a triangle add up to 180° .
21	B	Convert 2 hours to minutes. Multiply 0,25 by 120 minutes.
22	C	Express as improper fractions then use common denominator.
23	B	A leap year is divisible by 4. It is a multiple of 4.
24	B	Diameter is twice the radius.
25	A	By applying the law of precedence, multiply first then divide.
26	B	Divide 400 by 80 to get the required time.
27	C	Time substituted in the formula for interest should be expressed in years.
28	A	Find the fraction for the absent, then multiply by 40.
29	D	Multiply 15 cm by 30 to get the length of the chalk board in cm. Convert the answer to metres by dividing by 100.
30	A	Use the idea of proportion.
31	C	The question requires the use of the ratio 3:4.
32	B	Use the idea of net mass and gross mass.
33	D	

34	A	Commission in this case is the amount paid to the vendor proportional to the amount brought.
35	D	
36	C	Methods like the borrowing and equal addition (of 1 hour) can be used.
37	D	Figures on a given scale have the same unit, i.e. 1:500 in this case means 1 cm: 500 cm or 1 m: 500 m or 1 km: 500 km, etc.
38	A	The question requires distance, in kilometres, covered by Rudo in 60 minutes
39	D	Add the deposit \$22,50 to the \$150,00 already in the bank then subtract the withdrawn amount \$75,80.
40	D	To find time subtract departure from arrival time. Use the formula $S \times T$.
41	B	'Difference' has to do with subtraction.
42	C	Divide total marks for the 4 subjects by the number of subjects (4).
43	D	Find the deposit first, subtract from the cost price \$7500, then divide the answer by 12 to get the required monthly instalment.
44	A	Use the formula for finding volume of a cuboid ($L \times W \times H$)
45	A	Buying price = $20 \times \$5,65$ Selling price = $16 \times \$7,50$ since 4 were destroyed by rats. The difference will give the profit.
46	B	$500 - 40$, then find $\frac{1}{4}$ of 460.
47	C	Add the figures for the 5 days.
48	C	Identify the day with the highest number of babies.
49	B	
50	D	The use of total ratio and the meaning of the word 'respectively' are important.



ZIMBABWE SCHOOL EXAMINATIONS COUNCIL
GRADE SEVEN EXAMINATION

MATHEMATICS
PAPER 2

002/2

OCTOBER 2016 SESSION

Time: 2 hours

INSTRUCTIONS TO CANDIDATES

1. Answer all questions in Section A.
2. Answer any three questions from Section B.
3. Section A carries 25 marks.
4. Section B carries 15 marks.
5. To obtain full marks for any question, all working must be shown.
6. Do not measure from given diagrams.
7. Electronic calculators and slide rules must not be used in the examination.
8. Underline answers and rule off after each answer.

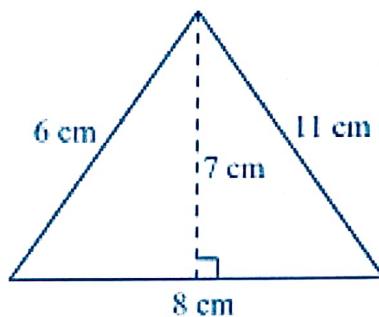
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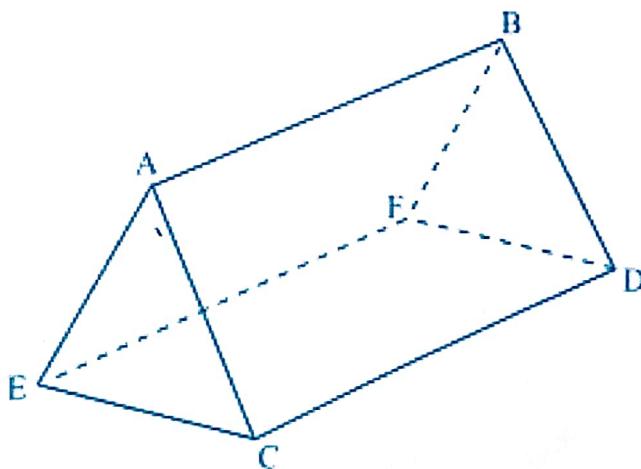
Section A (25 marks)

Answer all questions in this section.

1. (a) State the value of the underlined digit in the number 2 048 625. [1]
- (b) Simplify $2 - 1,25$. [1]
2. (a) Find the sum of 16 and 27. [2]
- (b) Find the product of 125 and 23. [2]
3. Simplify $9^0 + 8^1$. [2]
4. Express $\frac{2}{5}$ as a percentage. [2]
5. Study the diagram below and answer the question which follow.



- Calculate the area of the triangle. [2]
6. Find the volume of a cube with a side measuring 7 cm. [2]
 7. Study the triangular prism below and answer the questions which follow.

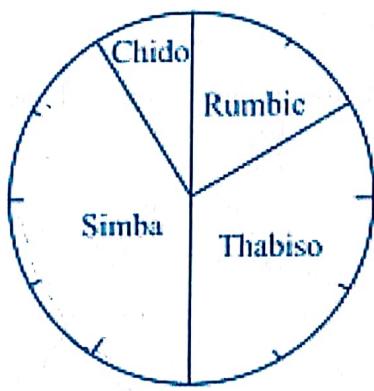


- (a) State the number of vertices of the shape. [1]
- (b) Name any line which is parallel to line AB. [1]

8. Two thirds of passengers in a bus are adults and the rest are children. If the number of adults in the bus is 40, calculate the total number of passengers. [2]
9. Study the invoice below.

NYONI SHOP		
Items	\$	C
Radio	40	00
Blankets	35	00
Grocery	62	40
Total	—	—

- Calculate the total cost of the items. [2]
10. The pie chart shows how \$1 200 was shared among four children.



- (a) Calculate Chido's share. [2]
- (b) Calculate the difference between Simba and Rumbie's shares. [3]

Section B (15 marks)

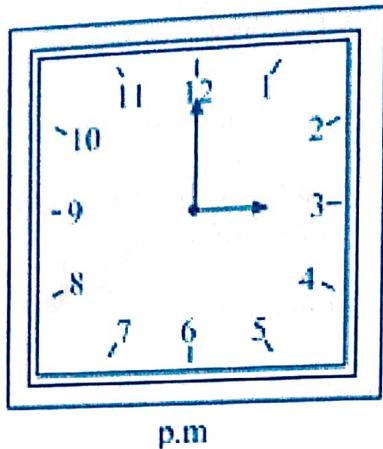
Answer any three questions in this section.

11. Mrs Washoma bought a bed for \$800 on hire purchase terms. She paid a deposit of 25% and paid the rest in 10 equal instalments.
- (a) State the marked price of the bed. [1]
- (b) Find the deposit she paid. [2]
- (c) Calculate the balance paid in instalments. [2]
12. Peter, Samukeliso and James shared \$600 in the ratio 4: 5: 6 respectively.
- (a) State the ratio of James to Samukeliso. [1]
- (b) Calculate Samukeliso's share. [2]
- (c) Find the total of Peter and James' shares. [2]
13. Brian earns \$900 per month. The table below shows how much he will spend on each item according to his budget plan.

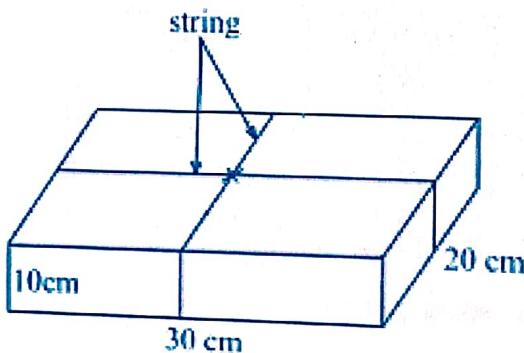
Item	Percentage	Amount
Food	36%	-
Transport	15%	-
Rent	25%	\$225
Medical Expense	10%	-
Clothing	14%	\$126

- (a) State the amount spent on rent. [1]
- (b) Calculate the amount spent on transport. [2]
- (c) On medical expenses, Brian used only four percent. Calculate the amount of money he saved. [2]

14



- (a) State the time shown on the clock face in the
- 12-hour notation. [1]
 - 24-hour notation. [1]
- (b) If the clock loses 5 minutes in every hour, calculate the time it will show after 2 hours. [3]
- 15 A birthday parcel which is in the form of a rectangular prism was tied around with a string as shown in the diagram.



- (a) Calculate the volume of the rectangular prism. [2]
- (b) Calculate the length of the string. [3]

GRADE 7 MATHEMATICS PAPER 2 (002/2) OCTOBER 2016 MARKING GUIDE

Question	Working and Answer	Mark	Notes
1 (a)	600	1	Correct answer
(b)	$ \begin{array}{r} 2,00 \\ -1,25 \\ \hline 0,75 \end{array} $	1 [2]	Correct answer (NB: correct alignment leads to correct answer)
2 (a)	$ \begin{array}{r} 16 \\ +27 \\ \hline 43 \end{array} $	1 1	Addition Correct answer
(b)	$ \begin{array}{r} 125 \\ \times 23 \\ \hline 2875 \end{array} $	1 1 [4]	For correct multiplication For correct answer
3	$ \begin{aligned} & 9^0 + 8^1 \\ &= 1 + 8 \\ &= 9 \end{aligned} $	1 1 [2]	Recalling the idea of indices Correct answer
4	$ \begin{aligned} & \frac{2}{5} \times \frac{100}{1} \\ &= 20 \times 2 \\ &= 40\% \end{aligned} $	1 1 [2]	For multiplying by 100 Correct answer
5	$ \begin{aligned} & \frac{B \times H}{2} \\ &= \frac{8 \text{ cm} \times 7 \text{ cm}}{2} \\ &= \frac{56 \text{ cm}^2}{2} \\ &= 28 (\text{cm}^2) \end{aligned} $	1 1 [2]	For correct substitution into the formula for finding the area of a triangle For correct answer

Question	Working and Answer	Mark	Notes
6	$V = L \times W \times H$ $= 7 \times 7 \times 7 \text{ (cm}^3\text{)}$ $= 343 \text{ (cm}^3\text{)}$	1 1 [2]	Substitution into the formula for finding volume of a cube. Correct answer
7 (a) (b)	6 CD	1 1 [2]	Correct answer Correct answer
8	$\frac{3}{2} \times 40$ $= 3 \times 20$ $= 60$	1 1 [2]	Correct use of proportion Correct answer
9	\$ 40,00 \$ 35,00 + \$ 62,40 <u>\$ 137,40</u>	1 1 [2]	Addition Correct answer
10 (a) (b)	$\frac{1}{2} \times \$1\,200,00$ $= 1 \times 100$ $= \$100$ $\frac{5}{12} - \frac{2}{12} = \frac{3}{12}$ $= \frac{3}{12} \times \$1\,200$ $= \$300$	1 1 2 1 [5]	Identification of Chido's share Correct answer Correct method of finding the difference in shares Correct answer

Question	Working and Answer	Mark	Notes
11 (a)	\$800	1	Correct answer
(b)	$\frac{25}{100} \times \$800$ = \$200	1	Multiplication
(c)	\$800 -\$200 \$600	1 [5]	Correct answer For subtraction (i.e marked price minus deposit) Correct answer
12 (a)	6 : 5	1	Correct answer
(b)	$\frac{5}{12} \times \$600$ = $5 \times \$40$ = \$200	1	For multiplication of the share by the amount
(c)	\$600 -\$200 \$400	1 2 [5]	Correct answer Amount shared minus Samkeliso's share and correct answer
13 (a)	\$225	1	Correct answer
(b)	$\frac{15}{100} \times \$900$ = 15×9 = \$135	1	Multiplication
(c)	$10\% - 4\% = 6\%$ $= \frac{6}{100} \times \$900$ = \$54,00 or $10\% \rightarrow \$90$ $6\% - \text{less}$ $\frac{6}{10} \times \$90 = \$54,00$	1 1 1 [5]	Correct answer Multiplication Correct answer Multiplication Correct answer

Question	Working and Answer	Mark	Notes																
14 (a) (i)	3 . 00 pm	1	For correct time																
(ii)	15 00 hours	1	For correct 24 hour notation (no dots)																
(b)	<table style="margin-left: auto; margin-right: auto;"> <tr> <td>Hr</td> <td>Mins</td> </tr> <tr> <td>3</td> <td>00</td> </tr> <tr> <td>+2</td> <td>00</td> </tr> <tr> <td>5</td> <td>00</td> </tr> </table> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>Hrs</td> <td>Min</td> </tr> <tr> <td>5</td> <td>00</td> </tr> <tr> <td>-</td> <td>10</td> </tr> <tr> <td>4</td> <td>50</td> </tr> </table>	Hr	Mins	3	00	+2	00	5	00	Hrs	Min	5	00	-	10	4	50	1	For addition to get 5.00 pm
Hr	Mins																		
3	00																		
+2	00																		
5	00																		
Hrs	Min																		
5	00																		
-	10																		
4	50																		
	or 4.50 p.m. or 1650 hrs	1 [5]	For subtraction of 10 minutes from 5.00 p.m. Correct answer																
15 (a)	$V = L \times W \times H$ $30 \text{ cm} \times 20 \text{ cm} \times 10 \text{ cm}$	1	Substitution into the formula for finding volume of a rectangular prism																
	6000 cm^3	1	Correct answer																
(b)	$(30 \text{ cm} + 10 \text{ cm}) \times 2 = 80 \text{ cm}$ $(20 \text{ cm} + 10 \text{ cm}) \times 2 = 60 \text{ cm}$ 140 cm	2 1 [5]	For calculating the length of the string Correct answer																



ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

GRADE SEVEN EXAMINATION

MATHEMATICS
PAPER 1

002/1

OCTOBER 2017 SESSION

Time: 2 hours

INSTRUCTIONS TO CANDIDATES

1. Read **all** the instructions carefully.
2. **Do not** open this booklet until you are told to do so by the invigilator.
3. Use only an HB pencil for all entries on the answer sheet.
4. When you are told to start, choose **one** correct answer from the suggested answers and shade it **very dark** as shown in the examples at the top of the answer sheet.
5. If you wish to change your answer, **erase it completely** with a pencil rubber and then shade the new choice.
6. If **more than one** box is shaded for any one answer, that answer will be regarded as **wrong**.
7. **If you do not understand** the instructions, **ask** the invigilator to explain them to you **before you start**.
8. Answer **all** the questions on the separate answer sheet provided.
9. Paper for rough work will be provided.

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1 Thirty five thousand six hundred and one in figures is

- A 350 601.
- B 305 601.
- C 35 601.
- D 35 006.

2 16,325 correct to one decimal place is

- A 1632,5.
- B 163,3.
- C 16,3.
- D 1,6.

3 $20 - 8 \times 2$

- A 10.
- B 8.
- C 5.
- D 4.

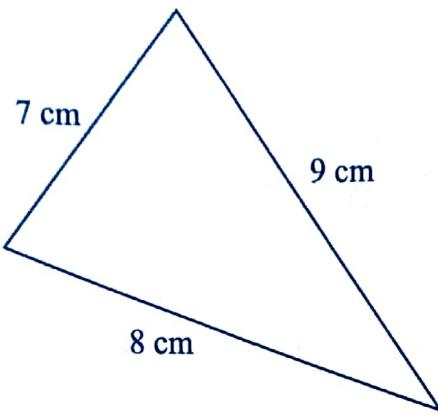
4 $\frac{18}{4}$ expressed as a mixed number is

- A $1\frac{1}{2}$.
- B $2\frac{1}{2}$.
- C $3\frac{1}{4}$.
- D $4\frac{1}{2}$.

5 How many lines of symmetry does a regular octagon have?

- A 8.
- B 6.
- C 4.
- D 2.

6 The special name of the triangle below is



- A** an isosceles.
- B** a scalene.
- C** an equilateral.
- D** a right angled.

7 $\frac{7}{8}$ as a decimal is

- A** 0,975.
- B** 0,875.
- C** 0,78.
- D** 0,675.

8 If $24 \div 8 = 3$ then $0,24 \div 0,8 =$

- A** 30.
- B** 3.
- C** 0,3.
- D** 0,03.

9 What is the product of 7,4 and 0,02?

- A** 148.
- B** 14,8.
- C** 1,48.
- D** 0,148.

10 What is the missing number in the sequence 2; 5; 9; -----; 20?

- A 12.
- B 16.
- C 14.
- D 19.

11 What is the difference between $3 \times (8+4)$ and $3 \times 8 + 4$?

- A 8.
- B 15.
- C 42.
- D 75.

12 $\frac{2}{5}$ of a number is 30. The number is

- A 12.
- B 15.
- C 42.
- D 75.

13 $0,018 \div 0,6 =$

- A 0,003.
- B 0,03.
- C 0,3.
- D 3,0.

14 What is the sum of 8; 4,326 and 0,2?

- A 12,526.
- B 12,428.
- C 12,328.
- D 4,336.

- 15 $\frac{10}{15} = \frac{n}{3}$. Therefore n is

A 4.
B 3.
C 2.
D 1.

- 16 The angle marked x on the diagram below is



A 40°.
B 60°.
C 80°.
D 100°.

17 $\left(3\frac{1}{2} - 2\frac{2}{5}\right) \times 7\frac{1}{2} =$

A $1\frac{1}{5}$.
B 7.
C $8\frac{1}{4}$.
D $8\frac{1}{15}$.

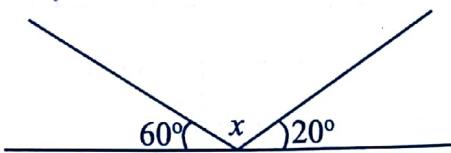
- 18 A baby's milk bottle holds 375 cm³. How many times can it be filled from a 3 litre flask?

A 9.
B 8.
C 90.
D 80.

15 $\frac{10}{15} = \frac{n}{3}$. Therefore n is

- A 4.
- B 3.
- C 2.
- D 1.

16 The angle marked x on the diagram below is



- A 40°.
- B 60°.
- C 80°.
- D 100°.

17 $\left(3\frac{1}{2} - 2\frac{2}{5}\right) \times 7\frac{1}{2} =$

- A $1\frac{1}{5}$.
- B 7.
- C $8\frac{1}{4}$.
- D $8\frac{1}{15}$.

18 A baby's milk bottle holds 375 cm^3 . How many times can it be filled from a 3 litre flask?

- A 9.
- B 8.
- C 90.
- D 80.

- 19 The table shows the measurements of four boxes, P, Q, R and S

	Length	Width	Height
P	7 cm	5 cm	2 cm
Q	6 cm	3 cm	5 cm
R	5 cm	2.5 cm	4 cm
S	5 cm	4 cm	2 cm

The box with the greatest volume is

- A Q.
B P.
C R.
D S.
- 20 The sum of 8^2 and 9^2 is
A 17.
B 34.
C 97.
D 145.
- 21 Twenty five minutes past seven in the evening in 24 hour notation is
A 0725.
B 1725.
C 1925.
D 1935.
- 22 If $m \times 12 = 132$, then m is
A 11.
B 12.
C 22.
D 33.

- 23** The Lowest Common Multiple (LCM) of 6 and 9 is
- A** 6.
B 12.
C 18.
D 54.
- 24** 8,099 to the nearest whole number is
- A** 8.
B 9.
C 81.
D 8099.
- 25** A suit costs \$60. If 10 % deposit is paid, then the balance is
- A** \$6.
B \$50.
C \$54.
D \$66.
- 26** There are 350 pupils in a school. If the ratio of boys to girls is 4 : 3, then the number of boys in the school is
- A** 50.
B 100.
C 150.
D 200.
- 27** A motorist covered a distance of 90 km in 45 minutes. What was the average speed?
- A** 120 km/hr.
B 100 km/hr.
C 90 km/hr.
D 45 km/hr.
- 28** The number of 250 g packets of washing powder that can be packed from a 25 kg bag are
- A** 10.
B 50.
C 100.
D 1 000.

- 29** 10 marks out of 20 as a percentage is
- A** 50 %.
B 30 %.
C 20 %.
D 10 %.
- 30** Lessons start at 8.00 a.m. A girl arrived at school 13 minutes late. She arrived at
- A** 7.13 a.m.
B 7.47 a.m.
C 8.13 a.m.
D 8.47 a.m.
- 31** In 1960 a boy was 7 years old. In 2006 his age was
- A** 46.
B 53.
C 63.
D 66.
- 32** The cost of painting a wall measuring $4\frac{1}{2}$ m by 8 m at \$3,15 per square metre is
- A** \$11,34.
B \$11,30.
C \$113,40.
D \$1134,00.
- 33** Twelve men can build a kraal in 30 hours. How long can it take 8 men to build the kraal working at the same rate?
- A** 45 hours.
B 20 hours.
C 15 hours.
D 10 hours.
- 34** In 2008 the total number of days for February, March and April was
- A** 88.
B 89.
C 90.
D 91.

35. The table below shows minimum temperatures recorded at a school.

Day	Sun	Mon	Tue	Wed	Thur	Fri	Sat
Minimum Temperature °C	17	18	15	12	19	18

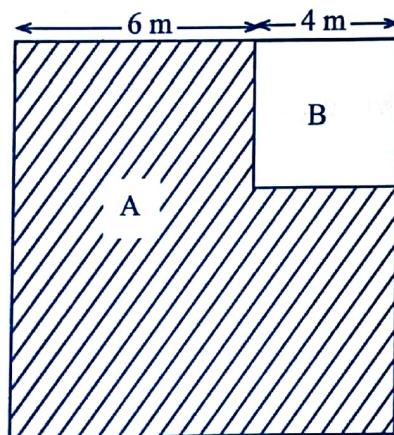
The average minimum temperature for the whole week was 16°C . The temperature for Sunday was

- A 13°C
- B 14°C
- C 14.5°C
- D 15°C

36. $10 - 16 + 8 =$

- A 14.
- B 8.
- C 4.
- D 2.

37. In the diagram below, B is a square in square A.



The area of the shaded part is

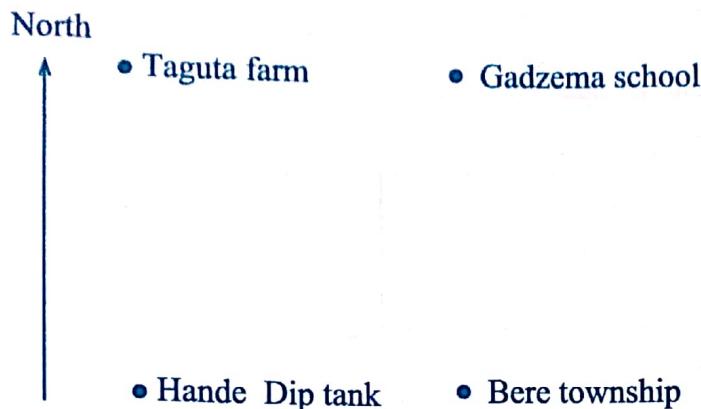
- A 16 m^2 .
- B 36 m^2 .
- C 84 m^2 .
- D 100 m^2 .

38. What is the difference between the product of 40 and 10 and the sum of 40 and 10?

- A 450.
- B 360.
- C 350.
- D 340.

- 39 The interest on \$ 600 invested for 2 years at 20 % per annum is
- A \$ 1 200.
B \$ 240.
C \$ 120.
D \$ 40.
- 40 $1\frac{2}{5} \times 2\frac{3}{7} =$
- A $3\frac{1}{7}$.
B $3\frac{1}{5}$.
C $3\frac{2}{5}$.
D $3\frac{17}{35}$.
- 41 A one hectare piece of land was divided into 8 equal plots. [1 hectare = 10 000 m²]. The area of each plot was
- A 1 000 m².
B 1 250 m².
C 1 500 m².
D 1 750 m².
- 42 A train left Harare at 2030 and arrived in Bulawayo at 0605 the next day. How long did the journey take?
- A 3 hours 30 minutes.
B 6 hours 5 minutes.
C 7 hours 40 minutes.
D 9 hours 35 minutes.

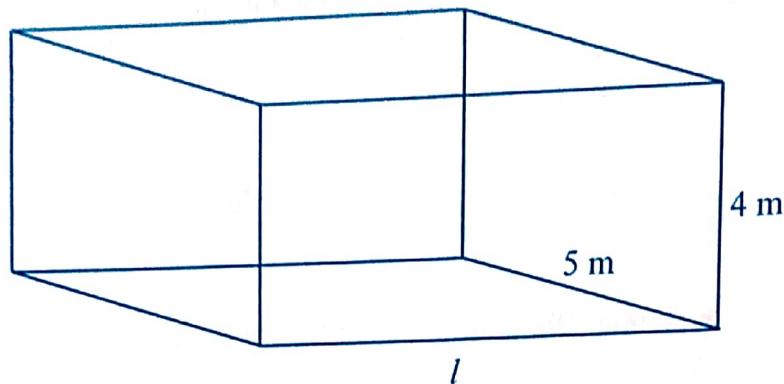
43



In the diagram above, the direction of the township from the school is

- A North.
B East.
C West.
D South.
- 44 The gross mass of a tin of beans is 2 085 g. The empty tin weighs 250 g. The mass of beans is
A 250 g.
B 1 835 g.
C 2 235 g.
D 2 335 g.
- 45 A farmer weeded $\frac{2}{5}$ of his field on Monday and $\frac{1}{3}$ on Tuesday. What fraction of the field remained unweeded?
A $\frac{11}{15}$.
B $\frac{4}{15}$.
C $\frac{1}{5}$.
D $\frac{1}{15}$.

- 46 A rectangular tank has a volume of 120 m^3 . It is 5 m wide and 4 m deep.



The length, l , of the tank is

- A 6 m.
- B 20 m.
- C 24 m.
- D 30 m.

- 47 A family has four sons, John, Jimmy, Jairs and Jethro, whose dates of birth are shown in the table below.

Name	John	Jimmy	Jairus	Jethro
Date of birth	16.02.81	04.04.96	21.10.72	14.09.91

Who is the youngest of the four sons?

- A John.
- B Jethro.
- C Jairus.
- D Jimmy.

- 48 How many decades are in a century?

- A 10.
- B 100.
- C 1 000.
- D 10 000.

The chart below shows the distances between selected towns in Zimbabwe. Study the chart and use it to answer question 49 and question 50.

Beitbridge			
322		Bulawayo	
607		279	Kadoma
472		164	135
			Gweru

49 The distance from Beitbridge to Kadoma is

- A 607.
- B 472.
- C 279.
- D 135.

50 A bus took 2 hours to travel from Bulawayo to Gweru. What was its average speed?

- A 164 km/h.
- B 135 km/h.
- C 67.5 km/h.
- D 82 km/h.

The chart below shows the distances between selected towns in Zimbabwe. Study the chart and use it to answer question 49 and question 50.

Beitbridge			
322			
607	279	Kadoma	
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49 The distance from Beitbridge to Kadoma is

- A 607.
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- C 279.
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- A 164 km/h.
- B 135 km/h.
- C 67,5 km/h.
- D 82 km/h.

GRADE 7 MATHEMATICS PAPER 1 (002/1) OCTOBER 2017 MARKING GUIDE

Question	Key	Notes
1	C	The question requires Arabic numerals
2	C	One decimal place means one figure after a comma
3	D	Deal with multiplication first before subtraction
4	D	Reduce to lowest terms then divide denominator into the numerator
5	A	A regular shape has all its sides equal. An regular octagon has 8 equal sides. It has 8 lines of symmetry.
6	B	A scalene triangle has all three sides unequal. An isosceles triangle has two sides equal. An equilateral triangle has all three sides equal.
7	B	Divide the denominator into the numerator
8	C	
9	D	Product is a result of multiplication. Take note of the number of decimal places.
10	C	Study the pattern and follow suit.
11	A	Use the law of precedence on both expressions then subtract.
12	D	Invert the fraction then multiply by 30.
13	B	To have a whole number divisor, first multiply both the dividend and the divisor by 10.
14	A	Proper alignment of numbers is important.
15	C	For the left fraction divide both the numerator and the denominator by 5.
16	D	Use the idea that angles on a straight line add up to 180°
17	C	Express as improper fractions then use the law of precedence.
18	B	Change the 3 litres to ml and then divide by 375 cm^3 [$1\text{ml} = 1 \text{ cm}^3$]
19	A	Find the volume of all the four boxes and take the greatest one.
20	D	Deal with the indices first then add.
21	C	
22	A	Divide 132 by 12 to get the value of 'm'.
23	C	List down the multiples of 6 and 9 then pick the lowest for both.
24	A	
25	C	Work out the deposit first then subtract it from the cost price.
26	D	The total ratio is 7. This implies that $\frac{4}{7}$ of the pupils are boys.
27	A	Time should first be expressed in hours and substituted into the formula for speed.
28	C	Convert to same unit then divide.
29	A	Divide and multiply by 100.
30	C	Add 13 minutes to the time given.
31	B	Find the difference between 1960 and 2006 then add 7.
32	C	Find the area of the wall then multiply by the cost of painting per square metre.
33	A	Twelve men take less hours and fewer men take more hours.
34	C	2008 is a leap year hence February had 29 days.
35	A	Average is found by dividing the total for 7 days by 7. Multiply 16°C by 7 days then subtract the total minimum temperatures for the six days to get the temperature for Sunday.

36	D	Bring positive numbers together, then subtract.
37	C	Find the area of the whole shape then subtract area for shape 'B' to get area for the shaded part.
38	C	Product is the result of multiplication. Sum is the result of addition. Difference is the result of subtraction. Multiply 40 by 10. Add 40 and 10 then subtract the results.
39	B	Use the formula for finding interest.
40	C	Express fractions as improper then multiply.
41	B	
42	D	Since it is over two days, it is easier by subtracting 2030 from midnight then add the 6 hours 5 minutes.
43	D	The key word is 'from'. In this case direction is measured from school.
44	B	In this question 'gross' means mass of beans plus mass of empty tin.
45	B	The use of common denominator is important in addition and subtraction of fractions.
46	A	Use the formula for volume of a cuboid.
47	D	
48	A	Decade = 10 years Century = 100 years
49	A	
50	D	Identify distance from the table and use the formula for speed.



ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

GRADE SEVEN EXAMINATION

MATHEMATICS
PAPER 2

002/2

OCTOBER 2017 SESSION

Time: 2 hours

INSTRUCTIONS TO CANDIDATES

1. Answer **all** questions in Section **A** on the separate answer paper provided.
2. Answer any **three** questions in Section **B** on the separate answer paper provided.
3. Section **A** carries 25 marks.
4. Section **B** carries 15 marks.
5. To obtain full marks for any question, **all working** must be shown.
6. Do **not** measure from given diagrams.
7. Electronic calculators and slide rules **must not** be used in the examination.

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Section A (25 marks)

Answer all questions in this section.

- 1 (a) Write two thousand and twenty in figures. [1]

- (b) Round off 10,78 to the nearest whole number. [1]

- 2 (a) Find the sum of 123; 74 and 0,3. [2]

- (b) Express 250 g as a fraction of 1 kg, in its lowest terms. [2]

- 3 Simplify:

(a) $2\frac{1}{5} + 2\frac{1}{3}$ [2]

(b) $3\frac{3}{4} \times 2\frac{2}{3}$ [2]

- 4 Mother brought home 2 640 sweets. She shared 1 985 sweets equally among her 5 children.

- (a) How many sweets did each child get? [2]

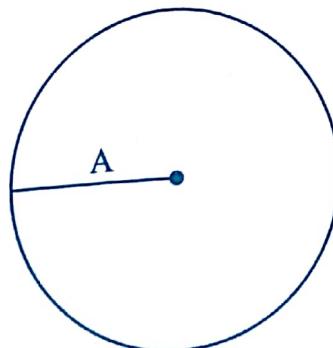
- (b) Calculate the number of sweets not shared. [2]

- 5 1245 is the time in the 24 hour notation.

[1]

Express the time in 12 hour notation.

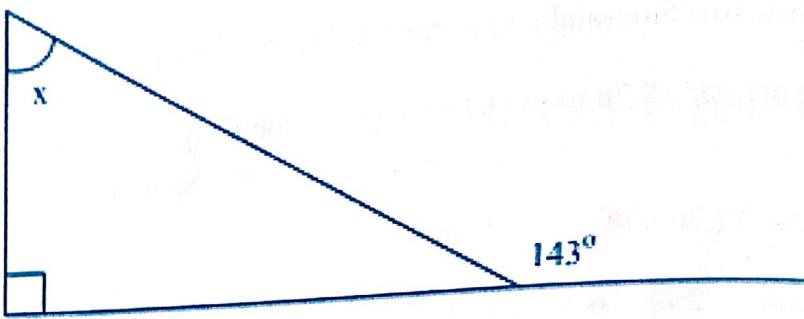
- 6 (a) The diagram below shows a circle with the centre marked by a dot.



[1]

Name line A in the circle.

- (b) Below is a right-angled triangle, with angles as shown.



Find the angle marked x in the diagram.

[3]

- (c) Calculate the area of a triangle with base 8 cm and height 5 cm. [2]

- 7 A woman bought 17 soap tablets each weighing 200 g. They were put in a box with a net mass of 750 grams.

- (a) Calculate the mass of the 17 soap tablets. [2]

- (b) Find the gross mass of the box. [2]



Section B (15 marks)

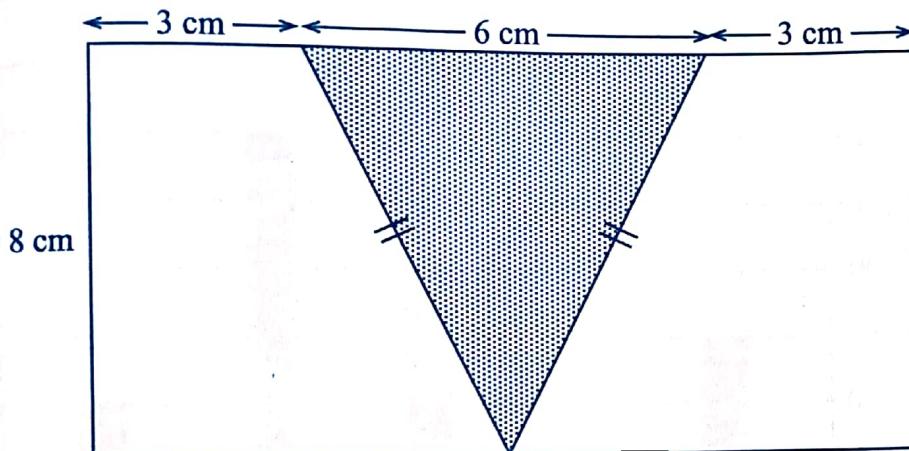
Answer any three questions from this section.

- 8 Mr Sibanda fenced his garden using 5 strand barbed wire. The garden is 30 m long and 15 m wide.

(a) Find the perimeter of the garden. [3]

(b) Calculate the length of the barbed wire needed to fence the garden. [2]

9



The diagram above shows a rectangle. Part of the rectangle is a shaded triangle.

(a) Calculate the area of the shaded part. [2]

(b) Calculate the area of the unshaded part. [3]

- 10 The table below shows vegetables sold from a school garden.

vegetable	Crates	unit price	total cost
tomatoes	4	\$1,80	\$7,20
cucumbers	□	\$4,20	\$16,80

(a) How many crates of cucumbers were sold? [3]

(b) Calculate the total cost of 8 crates of tomatoes. [2]

- 11 In a big box, there are 12 cartons of matches. A carton has 10 small boxes of matches.

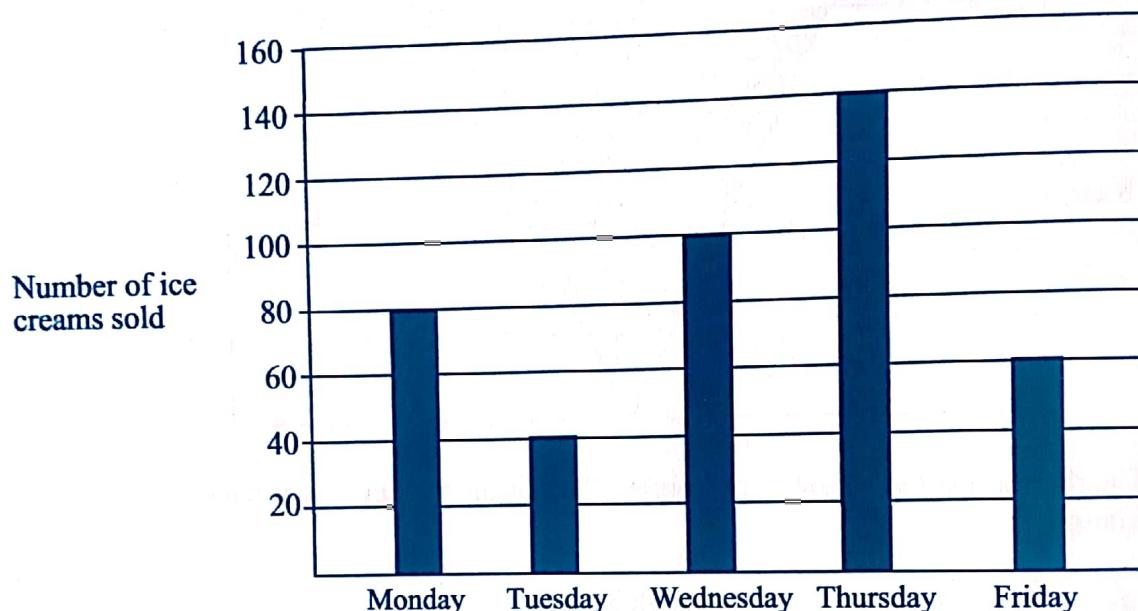
(a) How many small boxes of matches are in the big box? [2]

(b) Tom, Mary and Thabiso shared the small boxes in the ratio 2 : 3 : 5, respectively.

[3]

Calculate Mary's share.

- 12 The graph below shows the number of ice creams sold by a vendor from Monday to Friday.



(a) How many ice creams did the vendor sell in the 5 days? [2]

(b) The ice creams were sold at 35 c each.

How much did the vendor get in the 5 days? Give your answer in dollars.

[3]

GRADE 7 MATHEMATICS PAPER 2 (002/2) OCTOBER 2017 MARKING GUIDE

Question	Working and Answer	Mark	Notes
1 (a)	2 020	1	Correct answer
(b)	11	1	Correct answer
		[2]	
2 (a)	$ \begin{array}{r} 123,0 \\ 74,0 \\ + 0,3 \\ \hline 197,3 \end{array} $	1	Addition of the decimals
		1	Correct answer
(b)	$ \begin{array}{r} \frac{250 \text{ g}}{1000 \text{ g}} \\ = \frac{1}{4} \text{ kg} \end{array} $	1 [4]	Converting 1 kg to grammes Correct answer
3 (a)	$ \begin{array}{r} 2\frac{1}{5} + 2\frac{1}{3} \\ \frac{11}{5} + \frac{7}{3} \\ \frac{33+35}{15} \\ \frac{68}{15} \\ 4\frac{8}{15} \end{array} $	1	Use common denominator Correct answer
(b)	$ \begin{array}{r} 3\frac{3}{4} \times 2\frac{2}{3} \\ \frac{15}{4} \times \frac{8}{3} \\ = 10 \end{array} $	1 1 [4]	Conversion from mixed fractions to improper fractions Correct answer

Question	Working and Answer	Mark	Notes
4 (a)	$\begin{array}{r} 1985 \\ - 5 \\ \hline = 397 \text{ sweets} \end{array}$	1	Division
(b)	$\begin{array}{r} 2640 \text{ sweets} \\ - 1985 \text{ sweets} \\ \hline 655 \text{ sweets} \end{array}$	1 1 [4]	Correct answer Correct alignment and subtraction of figures Correct answer
5	12.45 p.m.	1 [1]	Correct answer (i.e. one dot, no colon)
6 (a)	radius	1	Correct answer
(b)	$\begin{array}{r} 180^\circ \\ - 143^\circ \\ \hline 37^\circ \end{array}$	1	For application of the straight-line rule on angles
	$\begin{array}{r} 90^\circ \\ + 37^\circ \\ \hline 127 \end{array}$		
	$\begin{array}{r} 180^\circ \\ - 127^\circ \\ \hline 53^\circ \end{array} \therefore x = 53^\circ$	2	For subtracting using the idea that the sum of interior angles of a triangle add up to 180° and correct answer.
(c)	$\begin{aligned} & \frac{b \times h}{2} \\ &= \frac{8}{2} \times \frac{5}{1} \\ &= \frac{20}{1} \\ &= 20 \text{ cm}^2 \end{aligned}$	1 1 1 [6]	Substitution of base and height Correct answer

Question	Working and Answer	Mark	Notes
7 (a)	$ \begin{array}{r} 17 \\ \times 200 \\ \hline 3400 \text{ g} \end{array} $	1	For multiplication
(b)	$ \begin{array}{r} 3400 \text{ g} \\ + 750 \text{ g} \\ \hline 4150 \text{ g} \end{array} $	1 1 [4]	Correct answer For addition Correct answer
8 (a)	$ \begin{array}{l} (L + W)2 \\ (30 \text{ m} + 15 \text{ m}) 2 \\ 45 \text{ m} \times 2 \\ 90 \text{ m} \end{array} $	1 1 1 1	Correct method of finding perimeter Multiplication Correct answer
(b)	$ \begin{array}{r} 90 \text{ m} \\ \times 5 \\ \hline 450 \text{ m} \end{array} $	1 1 [5]	Multiplication Correct answer
9 (a)	$ \begin{array}{r} \frac{B \times H}{2} \\ 8 \text{ cm} \times 6 \text{ cm} \\ \hline 24 \text{ cm}^2 \end{array} $	1 1	For substitution into the formula for finding area of a triangle Correct answer
(b)	$ \begin{array}{l} 12 \text{ cm} \times 8 \text{ cm} = 96 \text{ cm}^2 \\ \therefore \frac{96 \text{ cm}^2}{- 24 \text{ cm}^2} \\ 72 \text{ cm}^2 \end{array} $	1 1 1 [5]	For finding area for the whole shape Subtraction of areas of triangles Correct answer

Question	Working and Answer	Mark	Notes
7 (a)	$ \begin{array}{r} 17 \\ \times 200 \\ \hline 3400 \text{ g} \end{array} $	1	For multiplication
(b)	$ \begin{array}{r} 3400 \text{ g} \\ + 750 \text{ g} \\ \hline 4150 \text{ g} \end{array} $	1 1 1 [4]	Correct answer For addition Correct answer
8 (a)	$ \begin{array}{l} (L+W)2 \\ (30 \text{ m} + 15 \text{ m}) 2 \\ 45 \text{ m} \times 2 \\ 90 \text{ m} \end{array} $	1 1 1 1	Correct method of finding perimeter Multiplication Correct answer
(b)	$ \begin{array}{r} 90 \text{ m} \\ \times 5 \\ \hline 450 \text{ m} \end{array} $	1 1 1 [5]	Multiplication Correct answer
9 (a)	$ \begin{array}{r} \frac{B \times H}{2} \\ \frac{8 \text{ cm} \times 6 \text{ cm}}{2} \\ = 24 \text{ cm}^2 \end{array} $	1 1	For substitution into the formula for finding area of a triangle Correct answer
(b)	$ \begin{array}{l} 12 \text{ cm} \times 8 \text{ cm} = 96 \text{ cm}^2 \\ \therefore 96 \text{ cm}^2 \\ - 24 \text{ cm}^2 \\ \hline 72 \text{ cm}^2 \end{array} $	1 1 1 [5]	For finding area for the whole shape Subtraction of areas of triangles Correct answer

Question	Working and Answer	Mark	Notes
10 (a)	$\frac{\$16.80}{\$4.20} \times \frac{100}{100} = \frac{1680}{420}$ = 4 crates	2	Interpretation of the table and correct division
(b)	$\begin{array}{r} \$1,80 \\ \times 8 \\ \hline \$14,40 \end{array}$ or $\begin{array}{r} \$7,20 \\ \times 2 \\ \hline \$14,40 \end{array}$	1 1 1	Correct answer Multiplication Correct answer
		[5]	
11 (a)	$\begin{array}{r} 12 \\ \times 10 \\ \hline 120 \end{array}$ small boxes	1	Multiplication
(b)	$\frac{3}{10} \times 120$ = 3×12 = 36 small boxes	1 2 1	Correct answer For identifying Mary's share and multiplying For correct answer
		[5]	
12 (a)	$80 + 40 + 100 + 140 + 60$ = 420 ice creams	1	Addition
(b)	$\begin{array}{r} 420 \\ \times 35 \text{ cents} \\ \hline 12\ 600 \\ 2\ 100 \\ \hline 14\ 700 \text{ cents} \end{array}$ $\therefore \frac{14\ 700}{100}$ <u>\$147.00</u>	1 1 1 1	Correction answer Multiplication using cents Conversion of cents to dollars Correct answer
		[5]	



ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

GRADE SEVEN EXAMINATION

MATHEMATICS PAPER 1

002/1

OCTOBER 2018 SESSION

Time: 2 hours

INSTRUCTIONS TO CANDIDATES

1. Read **all** the instructions carefully.
2. **Do not** open this booklet until you are told to do so by the invigilator.
3. Use only an HB pencil for all entries on the answer sheet.
4. When you are told to start, choose **one** correct answer from the suggested answers and shade it **very dark** as shown in the examples at the top of the answer sheet.
5. If you wish to change your answer, **erase it completely** with a pencil rubber and then shade the new choice.
6. If **more** than **one** box is shaded for any one answer, that answer will be regarded as **wrong**.
7. **If you do not understand** the instructions, **ask** the invigilator to explain them to you **before you start**.
8. Answer **all** the questions on the separate answer sheet provided.
9. Rough paper will be provided.

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1 515 042 rounded off to the nearest hundred is

- A 500 000.
- B 515 000.
- C 515 040.
- D 515 100.

2 The value of the underlined digit in 73 256 is

- A 50.
- B 500.
- C 5 000.
- D 50 000.

3 6 count on 4 is

- A 2.
- B 10.
- C 24.
- D 64.

4 $\frac{3}{4}$ of 52 =

- A 3
- B 13
- C 16
- D 39

5 12.36 a.m. in 24 hour notation is

- A 1236.
- B 1224.
- C 0036.
- D 2436.

6 $0.7 \times 3.2 =$

- A 22.4.
- B 21.40.
- C 2.24.
- D 2.14.

7 The best unit for measuring the length of a classroom is the

- A mm.
- B cm.
- C m.
- D km.

1 515 042 rounded off to the nearest hundred is

- A 500 000.
- B 515 000.
- C 515 040.
- D 515 100.

2 The value of the underlined digit in $\underline{73} \ 2\underline{5}6$ is

- A 50.
- B 500.
- C 5 000.
- D 50 000.

3 6 count on 4 is

- A 2.
- B 10.
- C 24.
- D 64.

4 $\frac{3}{4}$ of 52 =

- A 3
- B 13
- C 16
- D 39

5 12.36 a.m. in 24 hour notation is

- A 1236.
- B 1224.
- C 0036.
- D 2436.

6 $0,7 \times 3,2 =$

- A 22,4.
- B 21,40.
- C 2,24.
- D 2,14.

7 The best unit for measuring the length of a classroom is the

- A mm.
- B cm.
- C m.
- D km.

8 What is the size of one revolution?

- A 90°
- B 180°
- C 270°
- D 360°

9 If the multiplicand is 7 and the product is 63, the multiplier is

- A 441.
- B 70.
- C 56.
- D 9.

10 A class has 17 girls and 23 boys. Half the class has _____ pupils.

- A 6
- B 15
- C 20
- D 40

11 $\frac{123}{30}$ expressed as a mixed number is

- A $3\frac{3}{10}$
- B $4\frac{1}{30}$
- C $3\frac{1}{10}$
- D $4\frac{1}{10}$

12 $14 \times 12 =$

- A 26
- B 42
- C 128
- D 168

13 How many sides does a decagon have?

- A 5
- B 8
- C 7
- D 10

14 Which of the following is a leap year?

- A 1994
- B 1998
- C 2002
- D 2004

15 $8 + 8^2 \div 4 =$

- A 18
- B 24
- C 64
- D 72

16 John, Chipo and Ruth shared \$160 in the ratio 3:5:2, respectively. What was Chipo's share?

- A \$80
- B \$48
- C \$32
- D \$16

17 What is the perimeter of a square with an area of 49 m^2 ?

- A 42
- B 28
- C 14
- D 7

18 437 increased by 46 is

- A 897
- B 483
- C 473
- D 391

19 $4 - 6 + 8 =$

- A 2
- B 6
- C 10
- D 18

20 $1\frac{1}{2} + 3\frac{3}{4} =$

- A $5\frac{1}{4}$
- B $4\frac{1}{4}$
- C $5\frac{2}{3}$
- D $4\frac{2}{3}$

21 3 men took 4 days to complete a job. How long will it take 4 men to do the same job working at the same rate?

- A 16 days
- B 12 days
- C 7 days
- D 3 days

22 $0.2 \times 0.2 \times 0.2 =$

- A 8.
- B 0.8.
- C 0.08.
- D 0.008.

23 Arrange the fractions below in descending order $\frac{1}{2}, \frac{2}{5}, \frac{1}{10}, \frac{1}{4}$.

- A $\frac{1}{4}, \frac{1}{10}, \frac{2}{5}, \frac{1}{2}$
- B $\frac{2}{5}, \frac{1}{2}, \frac{1}{10}, \frac{1}{4}$
- C $\frac{1}{10}, \frac{1}{4}, \frac{2}{5}, \frac{1}{2}$
- D $\frac{1}{2}, \frac{2}{5}, \frac{1}{4}, \frac{1}{10}$

24 How many lines of symmetry does an equilateral triangle have?

- A 1
- B 2
- C 3
- D 4

25 $\frac{75}{100}$ as a fraction in its lowest terms is

- A $\frac{1}{2}$.
- B $\frac{7}{10}$.
- C $\frac{3}{4}$.
- D $\frac{15}{20}$.

26 35 in Roman numerals is

- A XLV.
- B XXLV.
- C XXXV.
- D XXXIIII.

27 The volume of the box is 80 cm^3 . It has a length of 5 cm and a height of 4 cm.

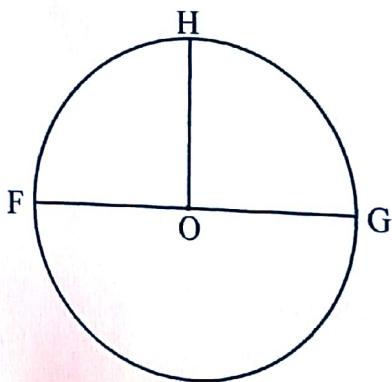
What is the width of the box?

- A 4
- B 16
- C 20
- D 1600

28 $\frac{4}{100}$ as a decimal number is

- A 4,0.
- B 0,4.
- C 0,04.
- D 0,004.

29 Below is a circle, with centre at O.



If line HO = 6,5 cm, then line FG =

- A 65 cm
- B 13 cm
- C 12 cm
- D 7 cm

30

Mr Khami spends 35 % of his salary on rent, 25% on school fees and 15 % on transport.

What percentage of his salary is left?

- A 25 %
- B 35 %
- C 75 %
- D 100 %

31

$$0.4 + 1 + 2.25 =$$

- A 2.30
- B 3.29
- C 2.66
- D 3.65

32

$$1001 - 899 =$$

- A 212
- B 112
- C 102
- D 11

33

Tadiwa was facing North East and he turned anticlockwise through 270° . He is now facing

- A South East.
- B South West.
- C North East.
- D North West.

34

$$\frac{3}{4} \times \frac{1}{3} =$$

- A $\frac{1}{4}$
- B $\frac{1}{12}$
- C $\frac{4}{9}$
- D $\frac{3}{4}$

35

The HCF of 30 and 45 is

- A 90.
- B 75.
- C 15.
- D 5.

36 A loaded truck has a gross mass of 4 tonnes. If the truck weighs 1,4 tonnes, the net mass of

the load is

- A 5,4 tonnes.
- B 2,6 tonnes.
- C 1,4 tonnes.
- D 4 tonnes.

37 30 % of \$350 is

- A \$380.
- B \$320.
- C \$245.
- D \$105.

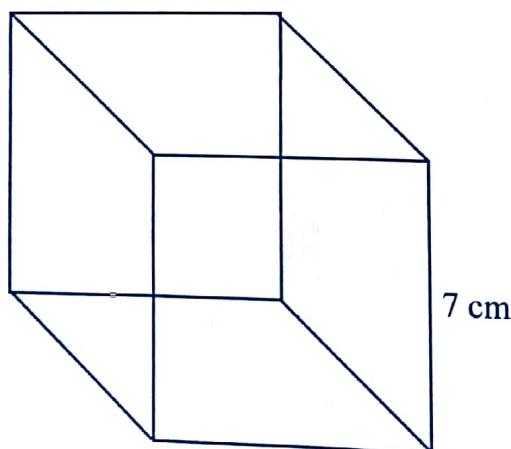
38 Timmy left home at 9.30 a.m. and arrived in Masvingo at 2.30 pm, on the same day. His journey took

- A 7 hours.
- B $6\frac{1}{2}$ hours.
- C 6 hours.
- D 5 hours.

39 A man bought a stove marked \$950 and was given 20 % discount. The amount he paid for the stove was

- A \$1 140
- B \$930
- C \$760
- D \$190

40 A cube has a height of 7 cm.



The volume of the cube is

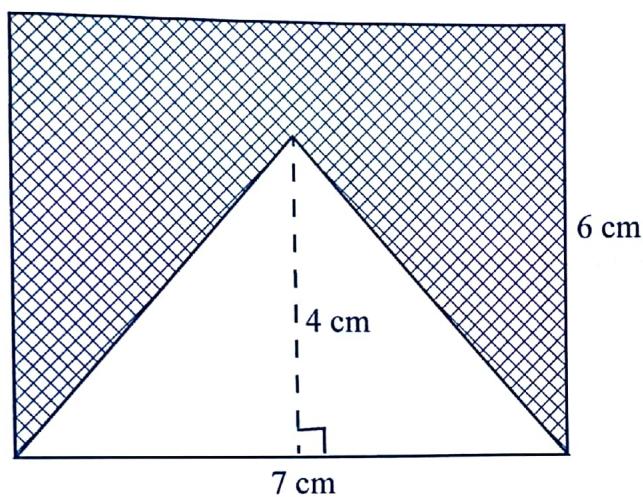
- A 21 cm^3 .
- B 49 cm^3 .
- C 56 cm^3 .
- D 343 cm^3 .

- 41 Jabulani's bank account had \$150 and he deposited \$75. After 2 days he withdrew \$85. How much was left in the account?

- A \$225
- B \$140
- C \$310
- D \$160

Use the diagram below to answer question 42 and question 43.

The diagram shows a triangle inside a rectangle.



- 42 The area of the triangle is

- A 28 cm^2
- B 21 cm^2
- C 14 cm^2
- D 11 cm^2

- 43 The area of the shaded part is

- A 42 cm^2 .
- B 28 cm^2 .
- C 21 cm^2 .
- D 13 cm^2 .

- 44 $\frac{1}{6} + \frac{3}{5} - \frac{2}{3}$ is

- A $\frac{1}{4}$.
- B $\frac{1}{10}$.
- C $\frac{11}{30}$.
- D $\frac{23}{30}$.

45 Marks of six grade seven pupils were 9; 6; 5; 10, 15 and 3.

What was their average mark?

- A 6
- B 8
- C 16
- D 48

46 $0,625 \div 0,5 =$

- A 1,25
- B 12,5
- C 125
- D 0,125

47 A lorry travelled 130 km in two hours.

At what speed was it travelling?

- A 65 km/h
- B 128 km/h
- C 132 km/h
- D 260 km/h

48 $8^3 =$

- A 512
- B 83
- C 24
- D 11

The table below shows the number of spellings given to Grade 5 pupils on each day of the week. Use the table to answer question 49 and question 50.

Day	Number of spellings
Monday	20
Tuesday	25
Wednesday	15
Thursday	25
Friday	30

49 How many more spellings were written on Friday than on Wednesday?

- A 25
- B 45
- C 30
- D 15

50 Which day has the same number of spellings as Thursday?

- A Friday
- B Monday
- C Tuesday
- D Wednesday

50

Which day has the same number of spellings as Thursday?

- A Friday
- B Monday
- C Tuesday
- D Wednesday

Question	Key	Notes
1	B	Take note of the tens and units.
2	A	Knowledge of the abacus is key here.
3	B	'Count-on' is the same as 'add', 'increase by', etc
4	D	In this case 'of' means 'multiply'.
5	C	In 24-hr notation no dots should be included. 12 midnight is written as 0000 hrs.
6	C	Importance of decimal position should be emphasised.
7	C	
8	D	One revolution is equal to 4 right angles which is 360° .
9	D	The knowledge of the relationship between product, multiplicand and multiplier is important.
10	C	
11	D	Express the fraction in its lowest terms then divide denominator into numerator.
12	D	
13	D	'Deca' means ten.
14	D	A leap year is divisible by 4 without leaving a remainder.
15	B	Apply the law of precedence. Deal with indices first, division then addition.
16	A	The total ratio is 10. The word 'respectively' means the order they are mentioned. Chipo's part is $\frac{5}{10}$.
17	B	Develop answer from formula of area of a square and formula for perimeter of a square.
18	B	'Increased by' means the same as add, plus, count on, etc
19	B	Add positive numbers first then subtract.
20	A	This requires the use of improper fractions and common denominator.
21	D	More men take less days while fewer men take more days.
22	D	Correct position of the decimal comma is important. The answer is to 3 decimal places.
23	D	Express all fractions using one denominator (Lowest Common Denominator). Descending order means from greatest to smallest.
24	C	Equilateral triangle has all 3 sides equal. Hence it has 3 lines of symmetry.
25	C	
26	C	
27	A	Use the idea of the formula for finding volume of a rectangular prism.
28	C	Convert to same unit then divide.
29	B	Divide 100 (denominator) into 4 (numerator).
30	A	HO is the radius while FG is the diameter of the circle. The diameter is 2 times the length of the radius.
31	D	Alignment of decimals and whole numbers is important.
32	C	Proper alignment on the abacus leads to correct answer.
33	A	Knowledge of angles between compass points is of importance.
34	A	Numerator \times numerator and denominator \times denominator then reduce to its lowest terms.
35	C	List factors of 30 and 45 in ascending order and pick the highest.
36	B	In the question 'gross mass' means mass of empty lorry plus mass of the load. Net mass means mass of the load.
37	D	Percent means out of 100.

38	D	Convert time to 24-hour notation then subtract to get the correct hours taken on the journey
39	C	Discount amount is the amount not to be paid. Subtract the discount amount from the marked price.
40	D	For a cube, the length, width and height are equal. Use the formula for volume of a cube.
41	B	'Deposit' means adding money into the account. 'Withdrawing' means taking money from the bank. 'Balance' means amount in the bank.
42	C	Use formula for area of a triangle.
43	B	Required area is the difference between the area of the rectangle and the area of the triangle.
44	B	Make use of the common denominator.
45	B	Average is total marks divided by number of pupils (7).
46	A	Multiply both the divisor and the dividend by 10 to remove decimals from the divisor.
47	A	Average speed is acquired by dividing distance (in km) by time (in hours).
48	A	$8^3 = 8 \times 8 \times 8$.
49	D	Subtraction.
50	C	



ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

GRADE SEVEN EXAMINATION, 2018.

002/2

MATHEMATICS

PAPER 2

OCTOBER 2018 SESSION

Time: 2 hours

INSTRUCTIONS TO CANDIDATES

1. Answer all questions in Section A.
2. Answer any three questions in Section B.
3. Section A carries 25 marks.
4. Section B carries 15 marks.
5. Omission of essential working may result in loss of marks.
6. Do not measure from given diagrams.
7. Electronic calculators and slide rules must not be used in the examination.

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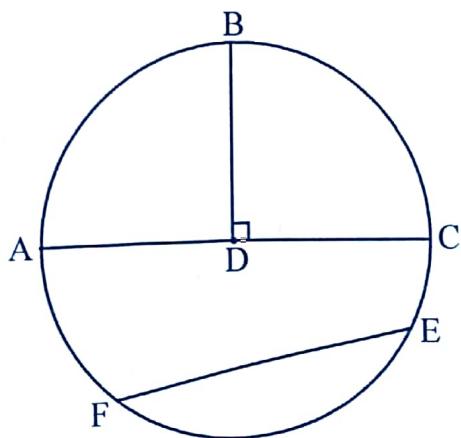
Section A (25 marks)

Answer all questions in this section.

1. (a) Write three thousand and four in figures. [1]
(b) Write down the number shown on the abacus below. [1]

TTH	TH	H	T	U
XX	XXX	XX	XX	XX
XX	XXX		XX	X
X				
XX	XX	XXX	XX	XXX
XX	X	XXX	X	XXX
		X	XX	

2. (a) Express 0,35 as a common fraction in its lowest terms. [2]
(b) Find the value of $6^4 + 4^0$. [2]
3. Express
(a) 7.46 p.m. in 24 hour notation. [1]
(b) $\frac{3}{5}$ of a century in years. [2]
4. Below is a circle. Point D is the centre of the circle.



- (a) State the special name given to line EF. [1]
(b) If arc CB is 4 cm, calculate the distance round the circle. [2]

[2]

5. Simplify $9 - 12 \div 6$

[2]

(a) $4 - 1,37$

[2]

(b) $4,3 + 0,04$

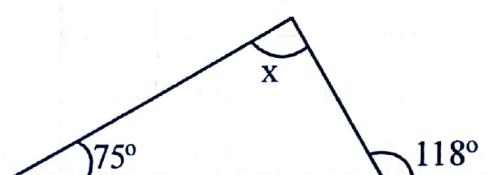
7. The full marks for a spelling test was 20 marks. Peter got 75% in the test.
Calculate Peter's mark out of 20.

[2]

8. Mr Dube bought a suit marked \$200. He got 5% discount. Calculate the amount he paid.

[2]

9. Below is a diagram with angles as shown.



Find the value of x .

[3]

Section B (15 marks)

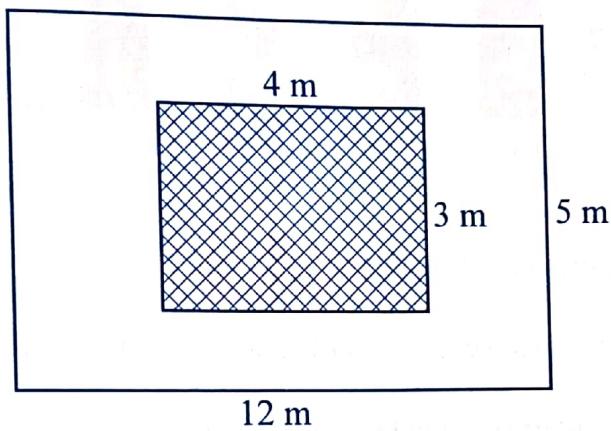
There are five questions in this section. Answer any three.

10. There were 45 children in a class. $\frac{8}{9}$ of them entered a painting competition. One quarter of those who entered the competition won prizes.

(a) Find the fraction of children who did not enter the competition. [2]

(b) Calculate the number of children who won prizes. [3]

11. Below is a shape made up of a rectangle inside a bigger rectangle.



(a) Find the difference between the length and width of the outer rectangle. [2]

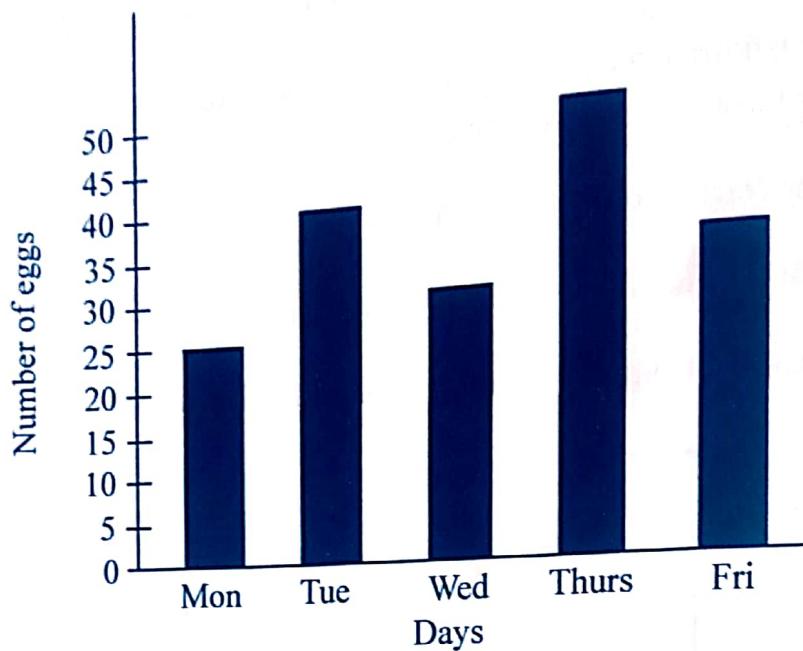
(b) Calculate the area of the unshaded part of the shape. [3]

12. Five men can take 9 days to complete a piece of job.

(a) Find how long it will take 15 men, working at the same rate to do the same job. [2]

(b) If these 15 men were paid \$20 each per day, how much will they be paid for the job altogether? [3]

13. The graph below shows the number of eggs laid by 5 hens in a week.



- (a) Which day had the most number of eggs laid? [1]
- (b) How many more eggs were laid on Friday than on Monday? [2]
- (c) Find the total number of eggs laid in the 5 days. [2]
- 14 Use the distance table below to answer the questions that follow. All distances are in kilometres.

Beitbridge		Bulawayo		Harare		Mutare	Victoria Falls
322			438				
582		586	579	265			
759		437	876		1016		

- (a) Which is the furthest place from Mutare? [1]
- (b) Find the difference between the distance from Harare to Victoria Falls and the distance from Beitbridge to Victoria Falls. [2]
- (c) A bus took 6 hours to travel from Bulawayo to Harare. Calculate the average speed of the bus. [2]

GRADE 7 MATHEMATICS PAPER 2 (002/2) OCTOBER 2018 MARKING GUIDE

Question	Working and Answer	Mark	Notes
1 (a)	3 004	1	correct answer
(b)	56 243	1 [2]	correct answer
2 (a)	$0,35 = \frac{35}{100}$ $= \frac{7}{20}$	1	Conversion from a decimal to a proper fraction
		1	Correct answer reduced to its lowest terms
(b)	$6^4 = 6 \times 6 \times 6 \times 6 = 1\ 296$ $4^0 = 1$ $1\ 296 + 1$ $= 1\ 297$	1 1 1 [4]	Interpretation of indices and addition Correct answer
3 (a)	1946 hours	1	Correct answer
(b)	$\frac{3}{5} \times \frac{100}{1}$ $= 60$ years	1 1 [3]	Multiplication of the fraction by 100 Correct answer
4 (a)	chord	1	Correct answer
(b)	$4 \text{ cm} \times 4 \text{ cm}$ $= 16 \text{ cm}$	1 1 [3]	Correct multiplication of 4 cm by 4 equal arcs Correct answer
5	$9 - (12 \div 6)$ $9 - 2$ $= 7$	1 1 [2]	Correct order of operations Correct answer

Question	Working and Answer	Mark	Notes
6 (a)	$ \begin{array}{r} 4.00 \\ - 1.37 \\ \hline 2.63 \end{array} $	1 1	Subtraction Correct answer
	$ \begin{array}{r} 4.30 \\ + 0.04 \\ \hline 4.34 \end{array} $	1	Addition
7	$ \begin{array}{l} \frac{75}{100} \times \frac{20}{1} \text{ or equivalent} \\ = 15 \end{array} $	1 1	Multiplication Correct answer
	$ \begin{array}{r} 100\% - 5\% = 95\% \\ \frac{95}{100} \times 100 \\ = \$190 \end{array} $	1 1	Multiplication of correct figures Correct answer
8	$ \begin{array}{r} 180^\circ \\ - 118^\circ \\ \hline 62^\circ \end{array} $	1 1	Applying the straight line rule on angles
	$ \begin{array}{r} 62^\circ \\ + 75^\circ \\ \hline 137^\circ \end{array} $	1	
	$ \begin{array}{r} 180^\circ \\ - 137^\circ \\ \hline 43^\circ \end{array} $	1	For using the idea that the sum of interior angles of a triangle add up to 180°
		[3]	Correct answer

Question	Working and Answer	Mark	Notes
10 (a)	$\begin{array}{r} 9 \\ - 8 \\ \hline 1 \end{array}$ $= \frac{1}{9}$	2	Subtraction and correct answer
(b)	$\frac{8}{9} \times \frac{45}{1}$ $= 40$ $\frac{1}{4} \times \frac{40}{1}$ $= 10 \text{ children}$	2	Correct calculations
		1 [5]	Correct answer
11 (a)	$\begin{array}{r} 12 \text{m length} \\ - 5 \text{m width} \\ \hline 7 \text{m} \end{array}$	1	Subtraction
(b)	<p>Outer shape $A = L \times W$</p> $A = 12 \text{ m} \times 5 \text{ m}$ $A = 60 \text{ m}^2$ <p>Inner shape $A = L \times W$</p> $A = 4 \text{ m} \times 3 \text{ m}$ $A = 12 \text{ m}^2$ <p>Unshaded 60 m^2</p> $- 12 \text{ m}^2$ 48 m^2	1	Correct answer
		2	Area of outer shape minus area of inner shape
		1	Correct answer
		[5]	

Question	Working and Answer	Mark	Notes												
12 (a)	<p>5 men = 9 days</p> <p>15 men = less</p> <p>$\frac{5}{15} \times \frac{9}{1}$</p> <p>= 3 days</p>	1 1	For use correct proportion and multiplication Correct answer												
(b)	<p>$\\$20 \times 3 \times 15$</p> <p>= \$900</p>	2	For correct multiplication												
		1	Correct answer												
		[5]													
13 (a)	Thursday	1	Correct answer												
(b)	<p>35 eggs laid on Friday</p> <p>- 25 eggs laid on Monday</p> <p>10 eggs difference</p>	1	Subtraction												
		1	Correct answer												
(c)	<table border="0"> <tr> <td>Monday</td> <td>25 eggs</td> </tr> <tr> <td>Tuesday</td> <td>40 eggs</td> </tr> <tr> <td>Wednesday</td> <td>30 eggs</td> </tr> <tr> <td>Thursday</td> <td>50 eggs</td> </tr> <tr> <td>Friday</td> <td><u>+35 eggs</u></td> </tr> <tr> <td>Total</td> <td><u>180 eggs</u></td> </tr> </table>	Monday	25 eggs	Tuesday	40 eggs	Wednesday	30 eggs	Thursday	50 eggs	Friday	<u>+35 eggs</u>	Total	<u>180 eggs</u>	1	For correct addition
Monday	25 eggs														
Tuesday	40 eggs														
Wednesday	30 eggs														
Thursday	50 eggs														
Friday	<u>+35 eggs</u>														
Total	<u>180 eggs</u>														
		1	Correct answer												
		[5]													
14 (a)	Victoria Falls	1	Correct answer												
(b)	<p>$876 \text{ km} - 759 \text{ km}$</p> <p>= 117 km</p>	1	Subtraction												
		1	Correct answer												
(c)	<p>Average speed = $\frac{D}{T}$</p> <p>= $\frac{438}{6}$</p> <p>= 73 km/h</p>	1	Substitution of correct figures in the formula for finding average speed												
		1	Correct answer												
		[5]													



ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

GRADE SEVEN EXAMINATION, 2019.

MATHEMATICS PAPER 1

002/1

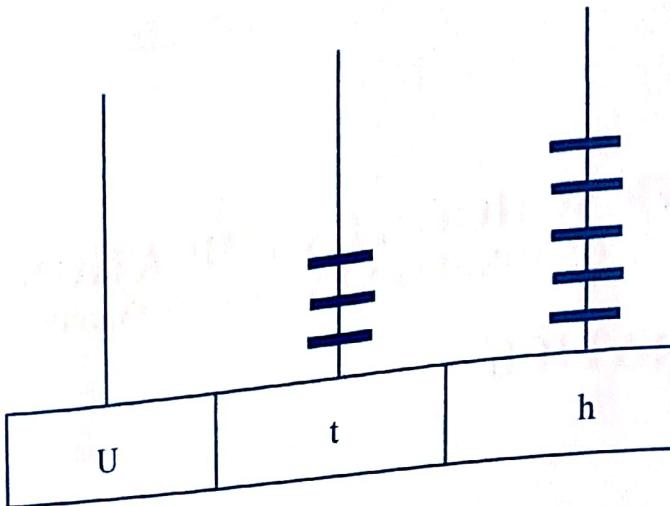
OCTOBER 2019 SESSION

Time: 2 hours

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2. Do not open this booklet until you are told to do so by the invigilator.
3. Use only an HB pencil for all entries on the answer sheet.
4. When you are told to start, choose one correct answer from the suggested answers and shade it very dark as shown in the examples at the top of the answer sheet.
5. If you wish to change your answer, erase it completely with a pencil rubber and then shade the new choice.
6. If more than one box is shaded for any one answer, that answer will be regarded as wrong.
7. If you do not understand the instructions, ask the invigilator to explain them to you before you start.
8. Answer all the questions on the separate answer sheet provided.
9. Paper for rough work will be provided.

1



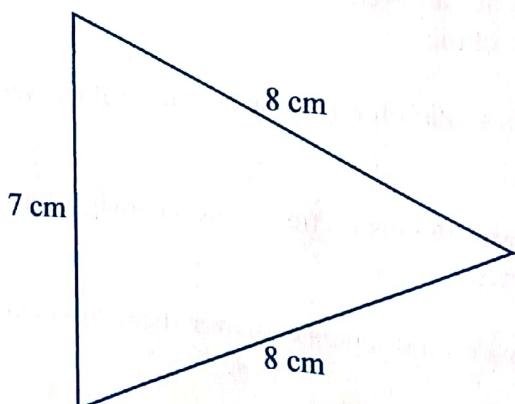
The number shown on the abacus above is

- A 3,50.
- B 5,30.
- C 0,35.
- D 0,53.

2 Which fraction is equivalent to $\frac{2}{3}$?

- A $\frac{8}{12}$
- B $\frac{4}{9}$
- C $\frac{1}{3}$
- D $\frac{3}{2}$

3 The type of triangle shown below is

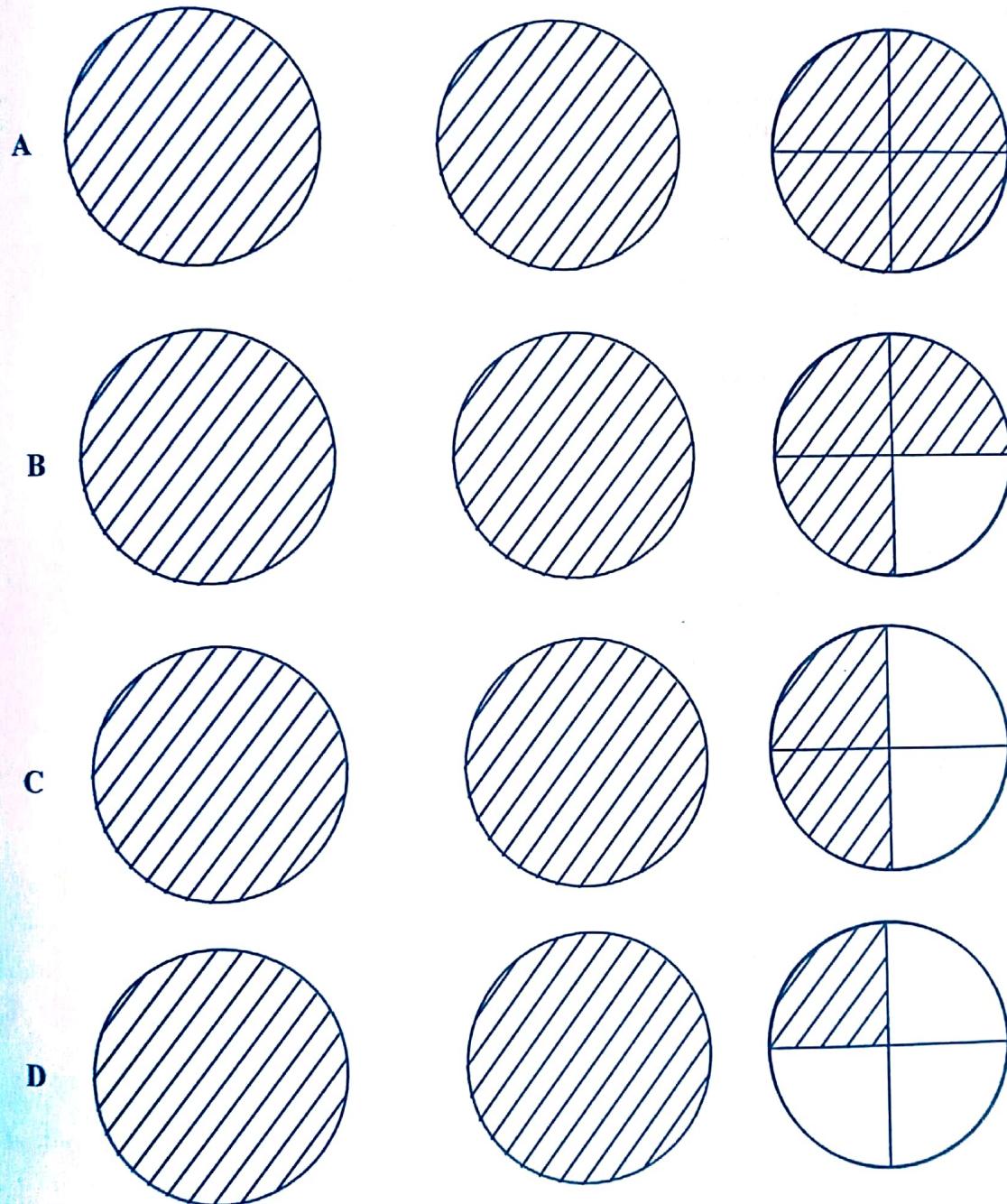


- A right angled.
- B equilateral.
- C isosceles.
- D scalene.

4 The total value of 2 fifty dollar notes, 10 fifty cent coins, 3 ten cent coins and 11 one cent coins is

- A \$180.11.
- B \$150.41.
- C \$108.11.
- D \$105.41.

5 Which of the following shaded diagrams show $2\frac{3}{4}$?



6 $\frac{37}{7}$ as a mixed number is

A $3\frac{2}{7}$.

B $5\frac{2}{7}$.

C $5\frac{3}{7}$.

D $7\frac{3}{7}$.

7 A clock is 15 minutes ahead and it reads 8.12 a.m.
What is the correct time?

A 7.57 am

B 7.45 am

C 8.12 am

D 8.27 am

8 Express 80% as a fraction in its lowest terms.

A $\frac{80}{100}$

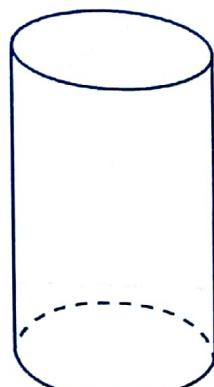
B $\frac{8}{10}$

C $\frac{4}{5}$

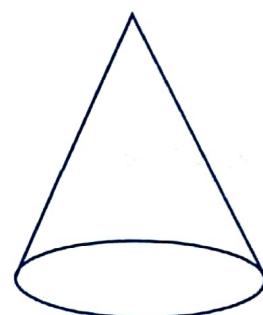
D $\frac{3}{5}$

Which of the following solid shapes is a cylinder?

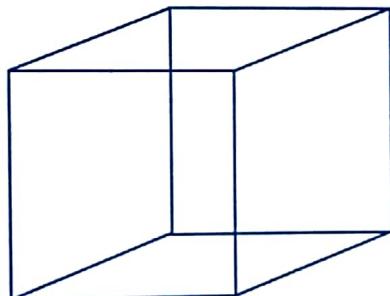
A



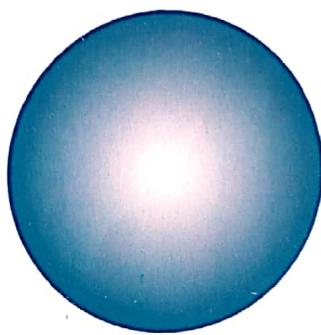
B



C



D

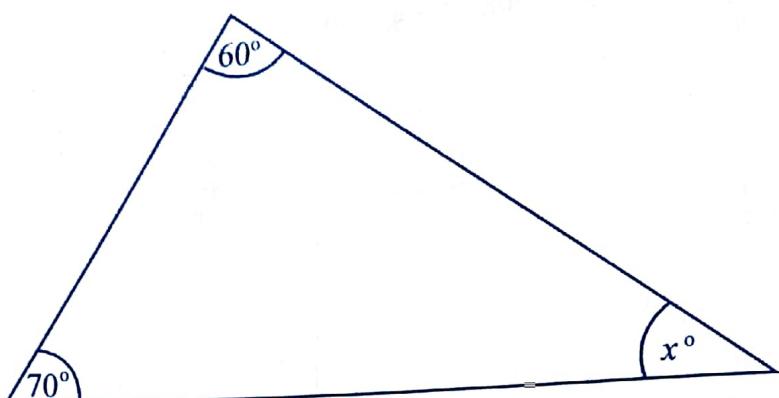


10

In $9 \times 6 = 54$ which one is a multiplicand?

- A 54
- B 15
- C 9
- D 6

11 What is the value of angle marked x in the diagram below?



- A 230°
- B 130°
- C 70°
- D 50°

12 The distance right round a circle is called the

- A chord.
- B radius.
- C diameter.
- D circumference.

13 $697 \times 47 =$

- A 32 759.
- B 31 903.
- C 27 880.
- D 7 667.

14 Capacity is measured in

- A litres.
- B metres.
- C kilometres.
- D kilogrammes.

15 125 take away 69 is

- A 55.
- B 56.
- C 94.
- D 194.

The following is an incomplete calendar.

June 2015						
S	M	T	W	T	F	S
		1	2	3	4	5

On which day does the 15th of June 2015 fall?

- A Saturday
- B Monday
- C Thursday
- D Tuesday

17 $2 - 0,835 =$

- A 2,165.
- B 1,165.
- C 0,833.
- D 0,635.

18 $2,5 \times 100 =$

- A 0,25.
- B 2,50.
- C 250.
- D 2 500.

19 $\frac{3}{4} + \frac{1}{6} \div \frac{2}{3} - \frac{1}{8} =$

- A $\frac{1}{8}$.
- B $\frac{7}{8}$.
- C $1\frac{1}{4}$.
- D $1\frac{5}{8}$.

- 20** A cyclist covers 15 km in 45 minutes.
Find the average speed in km/h.
- A $\frac{1}{3}$ km/h
B $\frac{3}{4}$ km/h
C 3 km/h
D 20 km/h
- 21** A class has 50 pupils, 20 of them are girls.
What is the percentage of boys in the class?
- A 60%
B 50%
C 40%
D 20%
- 22** Hours Minutes
- | | |
|-------|----|
| 9 | 20 |
| - 3 | 40 |
| _____ | |
| _____ | |
- A 5 hours 20 minutes
B 5 hours 40 minutes
C 6 hours 20 minutes
D 6 hours 40 minutes
- 23** A container holds 180 cm^3 of water when $\frac{1}{5}$ full.
What is its capacity when full?
- A 180 cm^3
B 360 cm^3
C 720 cm^3
D 900 cm^3
- 24** Mr Moyo bought a television set on hire purchase. He paid a deposit of \$40 and monthly instalments of \$16 for 24 months.
How much did he pay in total for the television set?
- A \$56
B \$80
C \$384
D \$424

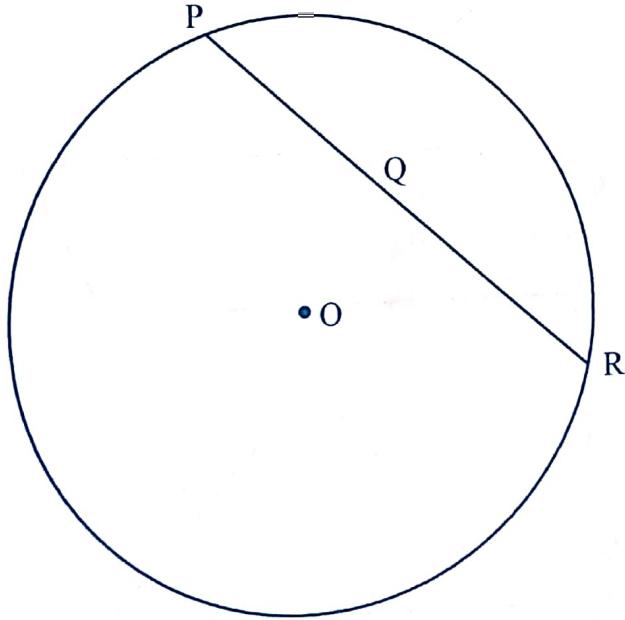
25 An angle of 95° is

- A an obtuse.
- B an acute.
- C a reflex.
- D a straight angle.

26 A man invested \$5 000 in a bank. The interest rate was 5% per annum. What would be his interest after 10 years?

- A \$250
- B \$2 500
- C \$5 250
- D \$7 500

27 In the diagram below, O is the centre of the circle.

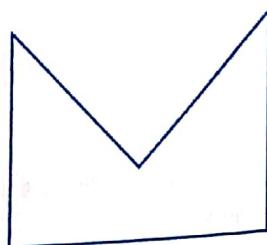


Line PQR is a

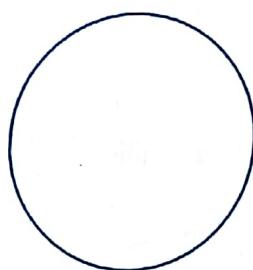
- A circumference.
- B diameter.
- C radius.
- D chord.

28 Which of the shapes below is a quadrilateral?

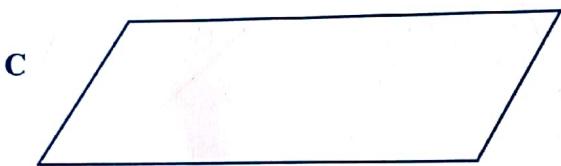
A



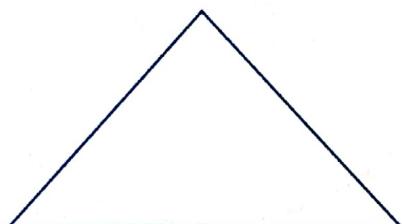
B



C



D



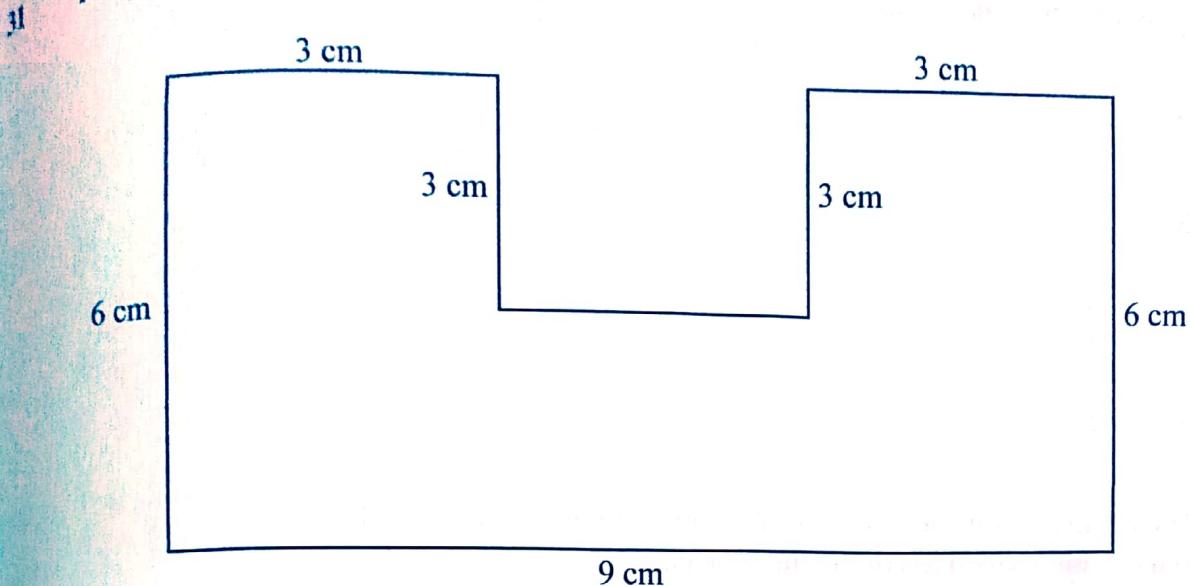
29 $\frac{3}{4}$ of 36 is

- A** 9.
- B** 12.
- C** 27.
- D** 48.

30 The sum of 12 and 0,25 is

- A** 12,25.
- B** 11,75.
- C** 1,45.
- D** 0,37.

The perimeter of the following shape is



- 31 The perimeter of the following shape is
- A 54 cm.
 - B 36 cm.
 - C 33 cm.
 - D 30 cm.
- 32 If 10 men take 4 days to build a house, how long will it take 8 men to build a similar house working at the same rate?
- A 5 days
 - B 8 days
 - C 10 days
 - D 20 days

- 33 The following table shows five students' marks in a test marked out of 50.

Student	Taku	Kudzi	Ellen	Linda	Leo
Mark	45	40	50	42	43

What was the average mark of the students?

- A 220
- B 44
- C 43
- D 42

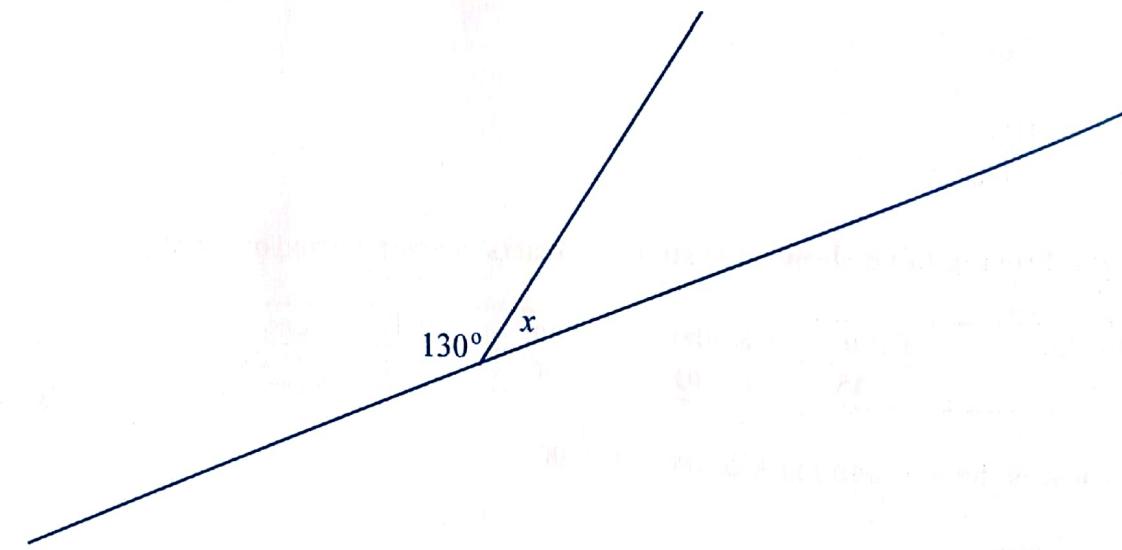
34 $\frac{16}{20}$ in its lowest terms is

- A $\frac{8}{10}$.
- B $\frac{4}{10}$.
- C $\frac{4}{5}$.
- D $\frac{3}{5}$.

35 The net mass of beans is 450 g. The empty tin has a mass of 115 g.
What is the gross mass of the tin of beans?

- A 565 g
- B 425 g
- C 335 g
- D 225 g

36 Calculate the angle marked x in the diagram below.



- A 230°
- B 180°
- C 90°
- D 50°

37 $1\frac{5}{8} \div 3 =$

A $3\frac{23}{25}$

B $1\frac{5}{8}$

C $\frac{13}{24}$

D $\frac{8}{29}$

38 $\frac{2}{3} + \frac{3}{5} =$

A $1\frac{4}{15}$

B $1\frac{4}{5}$

C $\frac{4}{15}$

D $\frac{5}{8}$

39 The marked price of a book was \$7,00. Takudzwa bought it at a discount of 8%.
How much did he pay for the book?

A \$7,56

B \$6,44

C \$0,56

D \$0,15

40 $(9 - 8) + 9 \times 8 =$

A 71.

B 72.

C 73.

D 89.

- 41 Eliot has \$6. He spends 75 cents.
What fraction of his money did he spend?

- A $\frac{1}{8}$
B $\frac{3}{8}$
C $\frac{3}{4}$
D $\frac{2}{25}$

- 42 A sum of \$648 was shared among Peter, John and James in the ratio 2: 3: 4 respectively.
What was John's share?

- A \$288
B \$216
C \$144
D \$ 72

- 43 A pond is 4 m long, 2,5 m wide and 1,5 m deep.
Calculate the volume of the water when the pond is full.

- A $15 m^3$
B $150 m^3$
C $1\,500 m^3$
D $15\,000 m^3$

- 44 The following shows the distances in km between the major towns in Zimbabwe.

Mutare				
263	Harare			
480	280	Gweru		
577	439	164	Bulawayo	
1 309	1 046	607	443	Victoria Falls

Find the distance between Bulawayo and Mutare.

- A 263
B 443
C 577
D 706

45 $3\frac{1}{2} \div \frac{1}{4} =$

A 14.

B $3\frac{3}{4}$.

C $\frac{7}{8}$.

D $\frac{4}{7}$.

46 $\frac{4}{6} - \frac{1}{3} =$

A $\frac{5}{6}$.

B $\frac{2}{3}$.

C $\frac{3}{6}$.

D $\frac{1}{3}$.

47 Study the following number sequence.

5; 6; 8; 11; 15;

What is the next number in the sequence?

A 19

B 20

C 23

D 26

48 A fuel tank of a car contains 80 l of petrol. The car uses 1 l of petrol for every 20 km travelled.

How much petrol is left in the tank if the car covers 1 000 km?

A 1 l

B 30 l

C 50 l

D 60 l

49 In a Grade 6 class there are 45 pupils.
If $\frac{3}{5}$ of them are boys, how many of them are girls?

- A** 9
- B** 15
- C** 18
- D** 27

50 Express $2\frac{3}{4} l$ in ml.

- A** 750 ml
- B** 2 725 ml
- C** 2 750 ml
- D** 2 250 ml

GRADE 7 MATHEMATICS PAPER 1 (002/1) OCTOBER 2019 MARKING GUIDE

Question	Key	Notes
1	C	Figures shown are both after the comma.
2	A	Multiply both numerator and denominator by the same number.
3	C	The triangle has two sides equal, hence it is isosceles.
4	D	Convert cents into dollars, align well to get correct answer.
5	B	Identify where $\frac{1}{4}$ is shown.
6	B	Divide the denominator 37 by 7 the numerator.
7	A	Minutes ahead are subtracted while minutes behind are added. In this case subtract 15 minutes
8	C	'Percent' means out of 100.
9	A	Idea of solid shapes is important.
10	C	The relationship between multiplicand, multiplier and product is important here.
11	D	Use the idea that interior angles of a triangle add up to 180° .
12	D	Be well versed with parts of a circle.
13	A	Multiplication of 3-digit by 2-digit whole numbers.
14	A	Knowledge of difference and relationship between volume and capacity
15	B	'take away' means subtract, minus, difference between, count back, etc.
16	B	The ability to count-on on the calendar is important.
17	B	Alignment of decimals is important.
18	C	Quicker methods of multiplying by 100 can be used.
19	B	Apply the law of precedence. Division first, addition and subtraction. Use common denominator.
20	D	Time should first be expressed in hours and substituted into the formula for speed.
21	A	Subtract 20 from 50 to get number of boys. Then express the answer out of 50 as a percentage.
22	B	Methods like the borrowing and equal addition can be used.
23	D	To get full capacity multiply 180 cm^3 by 5. [for $\frac{5}{5}$]
24	D	Total instalments plus deposit.
25	A	An angle less than 90° is acute. An angle greater than 90° but less than 180° is obtuse. An angle greater than 180° but less than 360° is reflex.
26	B	Use the formula for finding interest.
27	D	A chord is a straight line from one part of the circumference to another part of the circumference and may or may not pass through the centre. A diameter is a special chord which passes through the centre of the circle. A radius is a straight line from the centre to the circumference of the circle.
28	C	A quadrilateral is a 4-sided shape.
29	C	Replace 'of' by multiplication sign.
30	A	Correct alignment during addition is important.
31	B	Find the missing distance then add all.
32	A	8 men take fewer days.
33	B	Add all the marks and divide by the number of students (5).
34	C	Reduce to lowest terms by dividing both numerator and denominator by HCF of the two.
35	A	Gross mass is equal to net mass plus mass of empty container.
36	D	Use the idea that angles on a straight line add up to 180 degrees.

37	C	Dividing by 3 is the same as multiplying by $\frac{1}{3}$. It is also the same as dividing into 3 equal parts.
38	A	Use the common denominator.
39	B	Subtract discount from the marked price.
40	C	Deal with what is in brackets first, multiply, then add.
41	A	Convert dollars to cents (or same unit) then divide.
42	B	Total ratio is 9. Meaning that \$648 is divided into 9 equal parts. 2:3:4 therefore means 2 parts, 3 parts and 4 parts. 'Respectively' means the order of names is also the order of their ratios. Express John's ratio over total ratio, then multiply by \$648.
43	A	Use the method for calculating volume of a cuboid.
44	C	Interpretation of distance table is quite important.
45	A	First change to improper fraction, invert the second fraction and multiply. Dividing by $\frac{1}{4}$ is the same as multiplying by 4.
46	D	Use the common denominator.
47	B	Identify the pattern from the numbers given and follow suit.
48	B	Divide 1000 km by 20 km. subtract result from 80 l.
49	C	Several methods can be used here to get required answer.
50	C	Multiply 1000 ml to convert from litres.



ZIMBABWE SCHOOL EXAMINATIONS COUNCIL

GRADE SEVEN EXAMINATION, 2019.

MATHEMATICS PAPER 2

002/2

OCTOBER 2019 SESSION

Time: 2 hours

INSTRUCTIONS TO CANDIDATES

1. Answer **all** questions in Section A on the separate answer paper provided.
2. Answer any **three** questions in Section B on the separate answer paper provided.
3. Section A carries 25 marks.
4. Section B carries 15 marks.
5. Omission of essential working may result in loss of marks.
6. Do **not** measure from given diagrams.
7. Electronic calculators and slide rules **must not** be used in the examination.

Section A (25 marks)

Answer all questions in this section.

- 1 Write the following numbers in Arabic numerals:

[1]

(a) fifteen,

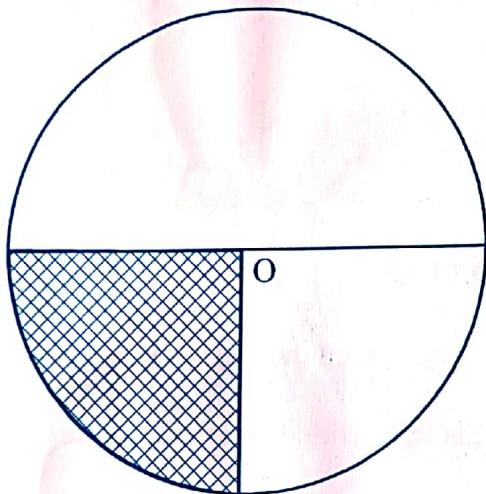
[1]

(b) forty.

- 2 The diagram below is a circle, with centre at O.

[1]

(a) What fraction of the circle is shaded?



- (b) Express the shaded part as a decimal fraction of the circle.

[2]

- 3 Copy and complete the following statement.

$$2 + (3 + 4) = (2 + \square) + 4 = \square$$

- 4 Find the value of

[2]

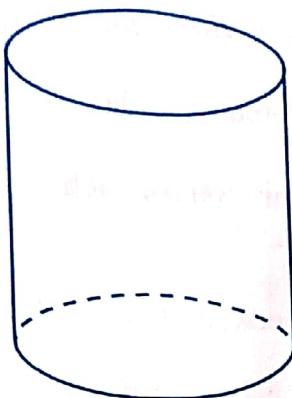
(a) $3 - 1,75$

[2]

(b) $12,4 + 2,9$

[2]

- 5 (a) State the name given to the following shape.



[1]

- 6 (b) The volume of a cuboid is 24 cm^3 . Its length is 4 cm and its height 3 cm.

Calculate its width.

[3]

6 Simplify $\left(\frac{1}{2} \times 12\right) + \frac{3}{4}$.

[2]

7 Convert

8 (a) 1 cubic metre to litres.

[1]

(b) $20\ 000 \text{ m}^2$ to hectares.

[1]

8 Find the average speed, in km/h, of a car that travels 400 metres in 12 seconds.

[3]

9 A pole is 2 m tall. Its shadow is 3 metres long at 4 p.m.

Calculate the length of a girl's shadow who is 0,8 metres tall at the same time.

[3]

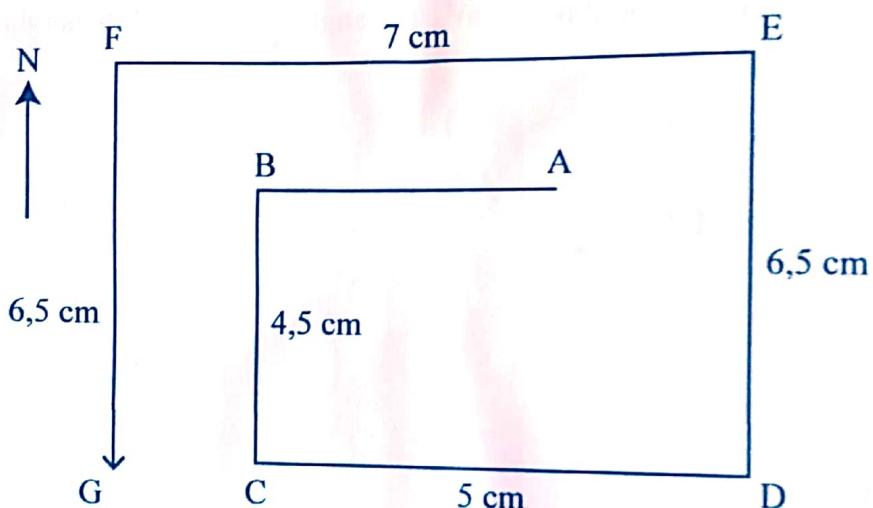
Section B (15 marks)

Answer any three questions from this section.

- 10 A vendor sells 24 dozens of ice-cream per day.

- (a) If she earns 5 cents commission for each ice cream sold, how much does she earn per day? [3]
- (b) If she works 7 days per week, how much does she earn per week? [2]

- 11 The following is a map showing Takunda's walk at his father's farm. Study it and answer questions that follow.

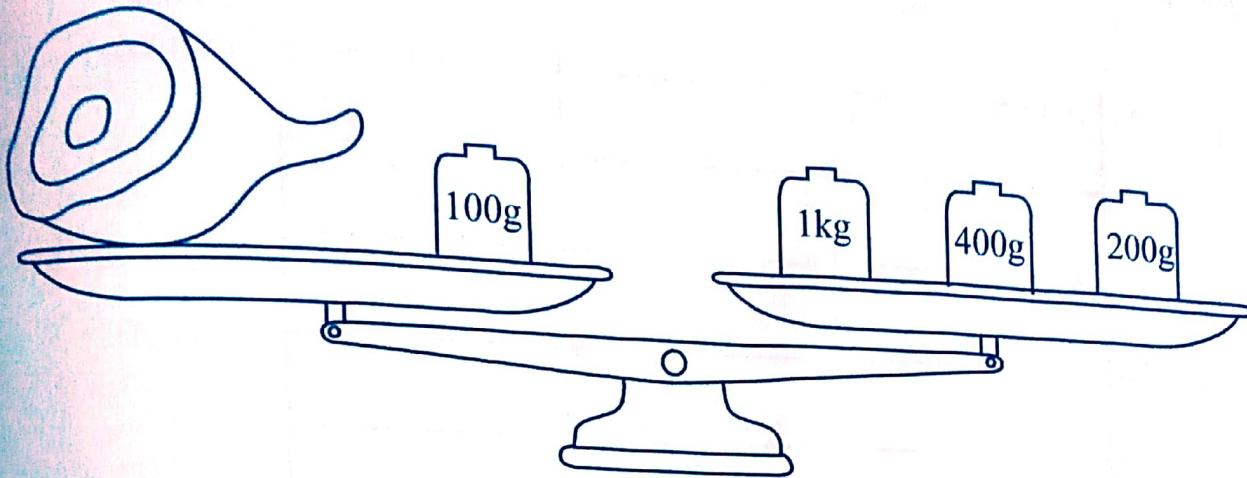


Scale: 1 cm: 1 km

- (a) In what direction was Takunda walking from A to B? [1]
- (b) Through how many right angles did he turn while walking from A to G? [1]
- (c) Calculate the actual distance that he walked from B to G. [3]

12

The following diagram shows a balancing scale showing meat being weighed.



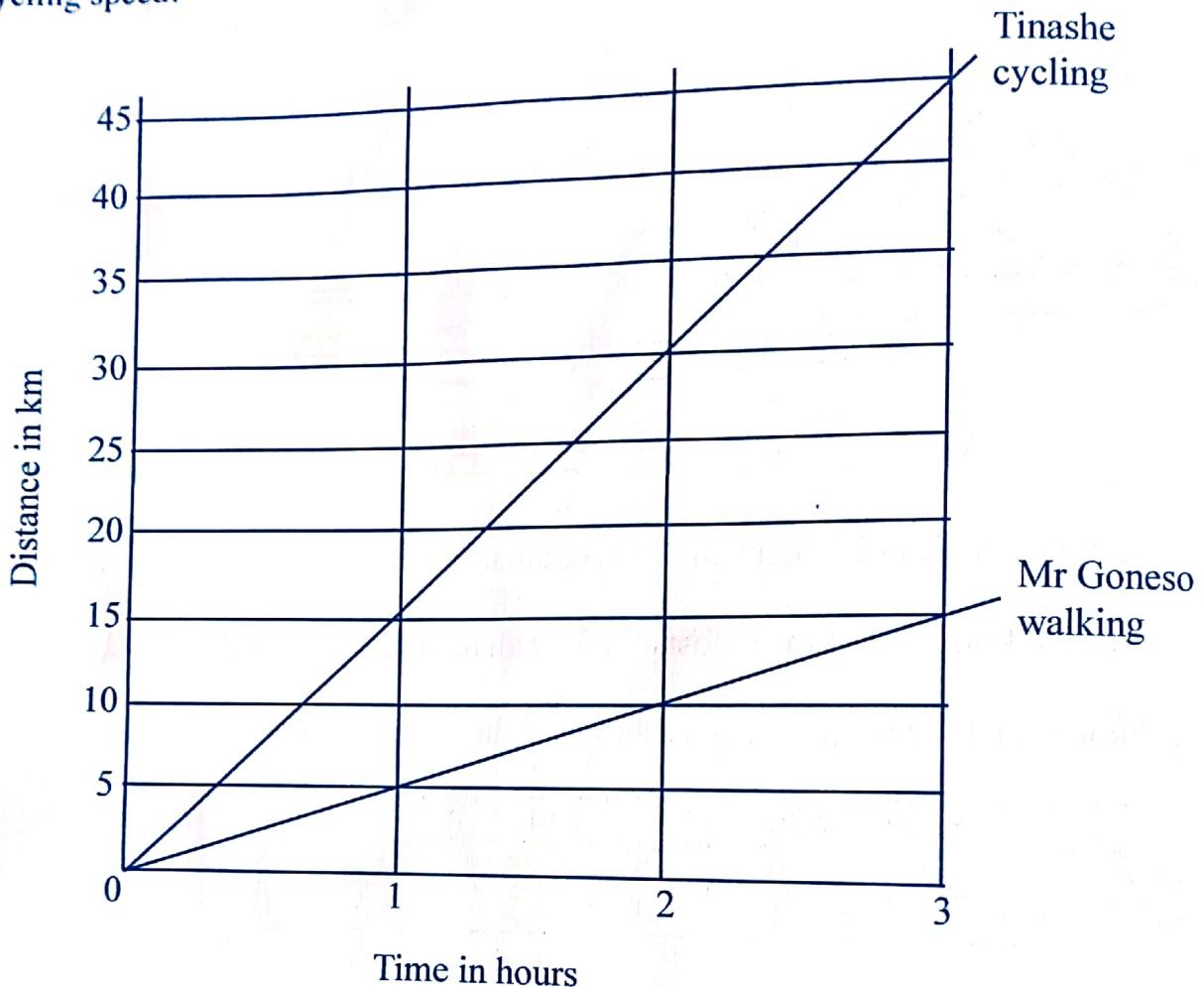
- (a) Find the weight of the meat in kilograms. [3]
- (b) If one kilogram of meat costs \$5,00, calculate the cost of the meat. [2]

13 Two children had notes and coins as shown in the following table.

	\$100	\$20	\$5	\$1	50c	20c
Thandi	0	0	5	4	0	3
Sipho	1	1	4	2	3	0

- (a) Find how much Thandi has in dollars. [2]
- (b) Find, in dollars, the difference between Thandi and Sipho's amounts. [3]

- 14 The following graph shows Mr Goneso's walking speed and Tinashe's cycling speed.



- (a) Who is travelling faster? [1]
- (b) Write down Mr Goneso's speed in km/h. [1]
- (c) Calculate the time taken by Tinashe to cycle 90 km, if he maintains his speed. [3]

GRADE 7 MATHEMATICS PAPER 2 (002/2) OCTOBER 2019 MARKING GUIDE			
Question	Working and Answer	Mark	Notes
1 (a)	15	1	Correct answer
(b)	40	1	Correct answer
2 (a)	$\frac{1}{4}$	1	Arabic and Roman numerals are not the same Correct answer
(b)	$\frac{1}{4} = 0,25$	2 [3]	For division and correct answer.
3	$2 + (3 + 4) = (2 + 3) + 4 = 9$	2 [2]	For correct Associative Law of Addition and for correct answer.
4 (a)	$ \begin{array}{r} 3,00 \\ -1,75 \\ \hline 1,25 \end{array} $	1 1	Subtraction of decimals. Correct answer.
(b)	$ \begin{array}{r} 12,4 \\ +2,9 \\ \hline 15,3 \end{array} $	1 1 [4]	Correct alignment and addition of decimals Correct answer
5 (a)	Cylinder	1	Correct answer
(b)	$\text{Volume} = L \times W \times H$ $24 \text{ cm}^3 = 4 \text{ cm} \times W \times H$ $24 \text{ cm}^3 = 12 \text{ cm} \times W$ $\frac{24 \text{ cm}}{12} = W$ $W = 2 \text{ cm}$	1 1 1 1 1 [4]	For substitution into the correct formula For division Correct answer
6	$ \begin{aligned} & \left(\frac{1}{2} \times 12 \right) + \frac{3}{4} \\ &= 6 + \frac{3}{4} \\ &= 6\frac{3}{4} \end{aligned} $	1 1 1 [2]	For correct order of operations and addition Correct answer
7 (a)	1 cubic metre = 1 000 litres	1	Correct answer
(b)	$ \begin{aligned} & \frac{20\ 000 \text{ m}^2}{10\ 000} \\ &= 2 \text{ hectares} \end{aligned} $	1 [2]	Correct answer after converting m^2 to hectares ($10\ 000 \text{ m}^2 = 1 \text{ hectare}$)

8	$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$ $\text{Speed} = \frac{400 \text{ m}}{1000 \text{ m}} \div \frac{12 \text{ seconds}}{3600 \text{ seconds}}$ $\text{Speed} = \frac{400 \text{ m}}{1000 \text{ m}} \times \frac{3600 \text{ seconds}}{12 \text{ seconds}}$ $\text{Speed} = 120 \text{ km/hr}$	2 1 [3]	Use of correct proportion on distance and time to get required speed. Correct answer
9	$2 \text{ m} : 3 \text{ m}$ $0,8 \text{ m} : \text{less}$ $= \frac{0,8 \text{ m} \times 3 \text{ m}}{2 \times 1}$ $= 1,2 \text{ m}$	1 1 1 [3]	Correct use of proportion Multiplication and division Correct answer
10 (a)	24×12 $= 288 \text{ units}$ $\times 5 \text{ cents commission}$ $\$14,40$	1 1 1	For multiplication (1 dozen = 12 units) For multiplying by the commission and converting cents to dollars For correct answer
10 (b)	$= \$14,40$ $\times 7$ $\$100,80$	1 1 1	Multiplication by the number of days per week Correct answer
11 (a)	West	1	Correct answer
11 (b)	5 right angles	1	Correct answer
11 (c)	$4,5 + 5 + 6,5 + 7 + 6,5$ $= 29,5$ $29,5 \times 1 \text{ km}$ $29,5 \text{ km}$	1 1 1 [5]	Identification and addition of correct figures. (Correct use of scale) Correct answer

12 (a)	$ \begin{array}{r} 1\,600 \text{ g} \\ - 100 \text{ g} \\ \hline 1\,500 \text{ g} \end{array} $ $ \begin{array}{r} 1\,500 \\ 1\,000 \\ \hline \end{array} $ $ = 1,5 \text{ kg} $	1 1 1	For subtraction Conversion of grammes to kilogrammes Correct answer
(b)	$ \begin{array}{r} 1,5 \text{ kg} \\ \times \$5 \\ \hline \$7,50 \end{array} $	1 1 [5]	Multiplication Correct answer
13 (a)	$ (5 \times \$5) + (4 \times \$1) + (3 \times \$0,20) $	1	Correct interpretation of the table and correct addition
	$ \$25 + \$4 + + \$0,60 $	1	Correct answer
	$ \$29,60 $		
(b)	$ \$100 + \$20 + \$20 + \$2 + \$1,50 $	1	For finding Sipho's amount
	$ \$143,50 $		
	$ \therefore \$143,50 $	1	Subtraction of correct figures
	$ \begin{array}{r} - 29,60 \\ \hline \$113,90 \end{array} $	1	Correct answer
[5]			
14 (a)	Tinashe	1	Correct identification
(b)	5 km/h	1	Interpretation of the diagram
(c)	$ \begin{aligned} \text{Time} &= \frac{\text{Distance}}{\text{Speed}} \\ &= \frac{90 \text{ km}}{15 \text{ km/h}} \\ &= \frac{90}{15} \\ &= 6 \text{ hrs} \end{aligned} $	2	Substitution of correct figures into the formula for finding time and correct division.
		1	Correct answer
[5]			