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## Grade 6 Chapter 1 Test – Ratios and Rates

Student Name		Class		Date	
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### MULTIPLE CHOICE QUESTIONS:

1	What is the best description for the least common multiple (LCM)?	
	A	the least non-zero number that is a multiple of two or more whole numbers
	B	the least number that is a multiple of the denominators
	C	the least number that is a multiple of the numerators
	D	the least non-zero number that is a multiple of a fraction

2	What is the LCM of 3 and 5?	
	A	2
	B	3
	C	5
	D	15

3	What is the GCF of 18 and 42?	
	A	3
	B	6
	C	24
	D	60

4	Write $\frac{4}{56}$ in simplest form.	
	A	$\frac{21}{56}$
	B	$\frac{2}{56}$
	C	$\frac{1}{14}$
	D	$\frac{2}{14}$



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<b>5</b>	Which three common multiples for 3 and 8 are missing from the list below? 24, 48, 72, __, __, __, 168, 192, . . .	
	<b>A</b>	3, 8, 24
	<b>B</b>	24, 24, 24
	<b>C</b>	96, 110, 144
	<b>D</b>	96, 120, 144

<b>6</b>	What is the LCM of 4, 7 and 8?	
	<b>A</b>	28
	<b>B</b>	32
	<b>C</b>	56
	<b>D</b>	224

<b>7</b>	The fastest fish in the world is the sailfish. If a sailfish swims at a constant rate, how many kilometers can the sailfish travel in 6 hours?							
	Hours Travelled	0	1	2	3	4	5	6
	Kilometers Travelled	0	68	136	204	272	340	?
	<b>A</b>	6 km						
	<b>B</b>	68 km						
	<b>C</b>	406 km						
<b>D</b>	408 km							

<b>8</b>	What is the ratio of people to cars?			
	<table border="1" style="margin: auto;"> <tr> <td style="padding: 5px;">6 cars</td> <td style="padding: 5px;">150 people</td> </tr> </table>		6 cars	150 people
	6 cars	150 people		
	<b>A</b>	1 : 25		
	<b>B</b>	6 : 150		
<b>C</b>	6 : 1			
<b>D</b>	25 : 1			



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9	Divide 55 into two groups so that the ratio is 4 : 7.	
	A	11 : 7
	B	35 : 20
	C	20 : 35
	D	220 : 385

10	To make 5 shwarmas, you need 0.5 kg of chicken. How many kg of chicken do you need for 20 shwarmas?											
	<table border="1" style="margin: auto;"> <tr> <td>No. of Shwarmas</td> <td>5</td> <td></td> <td>20</td> </tr> <tr> <td>Kg of Chicken</td> <td>0.5</td> <td></td> <td></td> </tr> </table>				No. of Shwarmas	5		20	Kg of Chicken	0.5		
	No. of Shwarmas	5		20								
	Kg of Chicken	0.5										
	A	2										
	B	2.5										
C	10											
D	15.5											



## Grade 6 Chapter 1 Test – Ratios and Rates

### EXTENDED RESPONSE QUESTIONS:

11	<p>A school population was predicted to increase by 50 students a year for the next 10 years. If the current population is 700 students, what will the enrollment be in 10 years? Show your working clearly.</p>	
	marks:	/ 2

12	<p>The grade 7 teacher collected money from students for three days for a school trip. If every student paid the same amount, what is the most the tickets could cost per student? (Hint: Find the GCF). Show all your working.</p>						
	<table border="1" style="margin: auto;"> <tr> <td style="padding: 5px;">Sunday</td> <td style="padding: 5px;">AED 64</td> </tr> <tr> <td style="padding: 5px;">Monday</td> <td style="padding: 5px;">AED 36</td> </tr> <tr> <td style="padding: 5px;">Tuesday</td> <td style="padding: 5px;">AED 52</td> </tr> </table>	Sunday	AED 64	Monday	AED 36	Tuesday	AED 52
Sunday	AED 64						
Monday	AED 36						
Tuesday	AED 52						
marks:		/ 4					

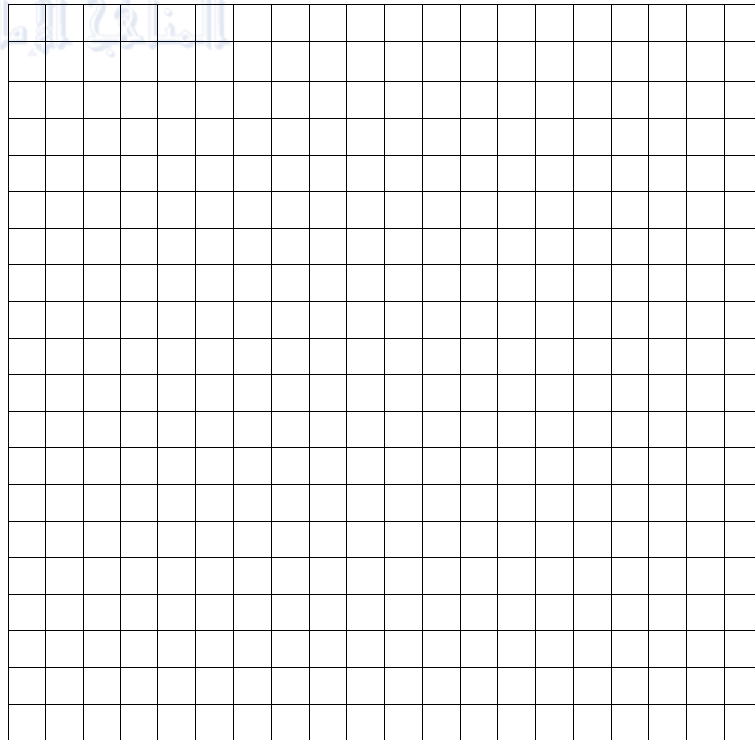
13	<p>a) Ahmed planted 6 flowers in 9 minutes. Ali planted 8 flowers in 12 minutes. Calculate how long it took each of them to plant 1 flower.</p>	
	marks:	/ 2
<p>b) Who planted the flowers faster? Explain your answer.</p>		
marks:		/ 2



## Grade 6 Chapter 1 Test – Ratios and Rates

- a) Graph the ordered pairs for Khalifa's Running Record. Remember to use correct scales and label the x-axis and y-axis of your graph.

Khalifa's Running Record		
Day, $x$	Kilometers, $y$	$(x, y)$
1	4	(1, 4)
2	8	(2, 8)
3	12	(3, 12)
4	16	(4, 16)



14

marks:

/ 4

- b) Describe the pattern in terms of the day and kilometers ran by Khalifa.

14

marks:

/ 1



## Grade 6 Chapter 1 Test – Ratios and Rates

<b>MULTIPLE CHOICE SECTION:</b>	/10
<b>EXTENDED RESPONSE SECTION:</b>	/15
<b>TOTAL MARKS:</b>	/25
<b>PERCENT:</b>	%

<b>Grade</b>	<b>6</b>	<b>Lesson(s)</b>	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7
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## Grade 6 Chapter 1 Test – Ratios and Rates

# Answer Key

### MULTIPLE CHOICE QUESTIONS:

Q1	A
Q2	D
Q3	B
Q4	C
Q5	D
Q6	C
Q7	D
Q8	D
Q9	C
Q10	A

### EXTENDED RESPONSE QUESTIONS:

<b>Q11</b>	Ans: 1200 students	
	<ol style="list-style-type: none"> <li>Number of students in 10 years</li> <li>Number of students in total</li> </ol>	<ul style="list-style-type: none"> <li><math>50 \times 10 = 500</math> (1 mark)</li> <li><math>700 + 500 = 1200</math> students (1 mark)</li> </ul>
	<ul style="list-style-type: none"> <li>The 1<sup>st</sup> mark is awarded if working shown.</li> <li>The 2<sup>nd</sup> mark may be awarded if the answer is correct, but “700 +500” is not shown.</li> </ul>	

<b>Q12</b>	Ans: AED 4	
	1. Factors of 64	• 64: 1, 2, 4, 8, 16, 32, 64 (1 mark)
	2. Factors of 36	• 36: 1, 2, 3, 4, 6, 9, 12, 18, 36 (1 mark)
	3. Factors of 52	• 52: 1, 2, 4, 13, 26, 52 (1 mark)
	4. GCF of 64, 36, and 52	• GCF is 4, hence AED 4 (1 mark)
<ul style="list-style-type: none"> <li>Factors for 64, 36 and 52 must be shown for 1<sup>st</sup> 2<sup>nd</sup> and 3<sup>rd</sup> marks.</li> <li>Answer of AED 4 must be stated. If AED is not written, still award the 4<sup>th</sup> mark.</li> </ul>		



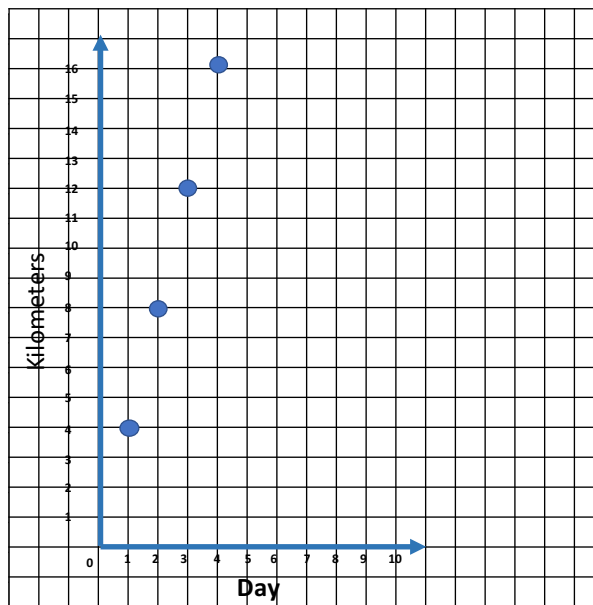


## Grade 6 Chapter 1 Test – Ratios and Rates

<b>Q13 (a)</b>	Ans: Ahmed = 1.5 minutes      Ali = 1.5 minutes	
	1. Ahmed's time to plant 1 flower	• $9 \div 6 = 1.5$ minutes      (1 mark)
	2. Ali's time to plant 1 flower	• $12 \div 8 = 1.5$ minutes      (1 mark)
<ul style="list-style-type: none"> <li>• If there is no working but the correct final answer for Ahmed or Ali, award the mark(s).</li> <li>• Do not penalise if the units are not written.</li> <li>• If student writes "1 minute 30 seconds," this is also acceptable.</li> </ul>		

<b>Q13 (b)</b>	Ans: Both Ahmed and Ali had the same speed.	
	Equivalent Ratios	• Both Ahmed and Ali had the same speed.      (1 mark)
<ul style="list-style-type: none"> <li>• Pupils just need to mention that the speed was the same planting 1 plant.</li> <li>• If the answer from 13 (a) shows otherwise, the mark should be awarded for correct answer based on this.</li> </ul>		

<b>Q14 (a)</b>	Ans: Check the grid.	
	1. Draw the grid with both axes correctly labelled.	• x and y axes correctly labelled.      (1 mark)
	2. Both axes are correctly scaled.	• x and y axes correctly scaled      (1 mark)
	3. Graph ordered pairs presented in the table.	• 2 coordinates plotted correctly      (1 mark)
	4. Graph ordered pairs presented in the table.	• all 4 coordinates plotted correctly      (1 mark)



If a student displays more than one quadrant, marks should still be awarded as long as the four points are plotted correctly.



## Grade 6 Chapter 1 Test – Ratios and Rates

Q14 (b)	Ans: Check the statement for an example like, “As days increase by 1, kilometers increase by 4.”	
	Compare ratios	<ul style="list-style-type: none"><li>As days increase by 1, kilometers increase by 4.</li></ul> (1 mark)
	<ul style="list-style-type: none"><li>The pupil must state an increase in day and kilometers. If no value is given but the increase in kilometers as days increase is mentioned, award the mark.</li></ul>	