



## Grade 6 Chapter 1 Test – Ratios and Rates

Student Name		Class		Date	
--------------	--	-------	--	------	--

### 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	$\frac{2}{14}$			



## Grade 6 Chapter 1 Test – Ratios and Rates

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

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

7

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	?

A	6 km
B	68 km
C	406 km
D	408 km

8	What is the ratio of people to cars?			
	<table><tr><td>6 cars</td><td>150 people</td></tr></table>		6 cars	150 people
	6 cars	150 people		
	A	1 : 25		
	B	6 : 150		
	C	6 : 1		
D	25 : 1			



## Grade 6 Chapter 1 Test – Ratios and Rates

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?

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

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.

marks: / 2

12

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.

Sunday	AED 64
Monday	AED 36
Tuesday	AED 52

marks: / 4

13

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.

marks: / 2

b) Who planted the flowers faster? Explain your answer.

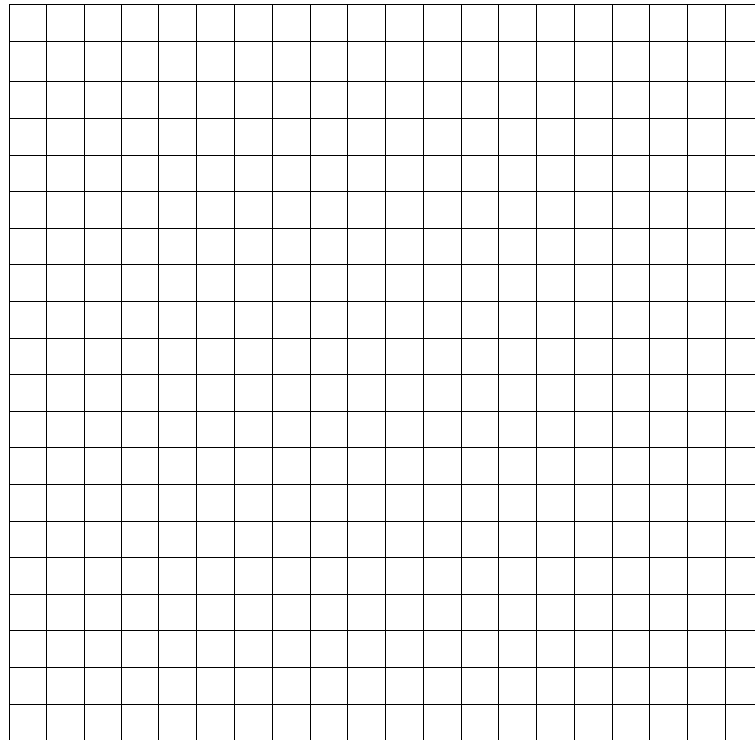
marks: / 2



## 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
--------------	----------	------------------	-----------------------------------



## 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:

Q11	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>	

Q12	Ans: AED 4	
	<ol style="list-style-type: none"> <li>Factors of 64</li> <li>Factors of 36</li> <li>Factors of 52</li> <li>GCF of 64, 36, and 52</li> </ol>	<ul style="list-style-type: none"> <li>64: 1, 2, 4, 8, 16, 32, 64 (1 mark)</li> <li>36: 1, 2, 3, 4, 6, 9, 12, 18, 36 (1 mark)</li> <li>52: 1, 2, 4, 13, 26, 52 (1 mark)</li> <li>GCF is 4, hence AED 4 (1 mark)</li> </ul>
	<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>	

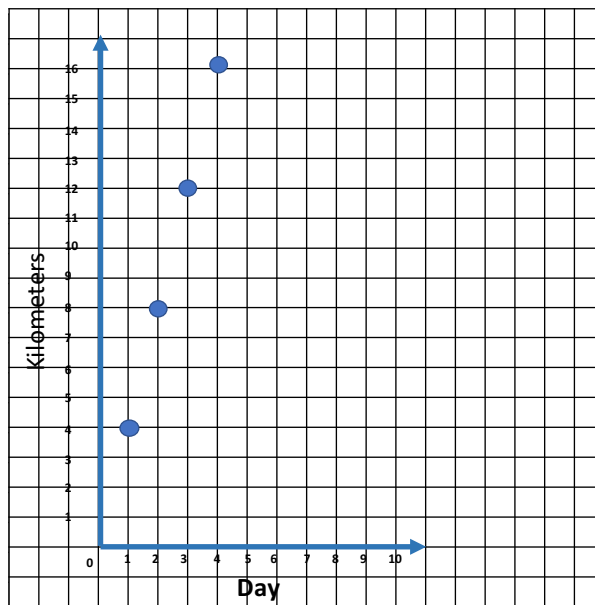


## Grade 6 Chapter 1 Test – Ratios and Rates

Q13 (a)	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>	

Q13 (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>	

Q14 (a)	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>	