



## Grade 7: Chapter 4 Test – Ratio, Proportion and Similar Figures

Student Name		Class		Date	
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### MULTIPLE CHOICE QUESTIONS: NO CALCULATOR ALLOWED

1	Express 9 out of 15 as a ratio in simplest form.	
	A	9 : 15
	B	3: 5
	C	18 : 30
	D	5 : 3

2	Out of 60 students, 24 are wearing a t-shirt. Express this ratio as a fraction in simplest form.	
	A	$\frac{1}{60}$
	B	$\frac{1}{24}$
	C	$\frac{4}{15}$
	D	$\frac{2}{5}$

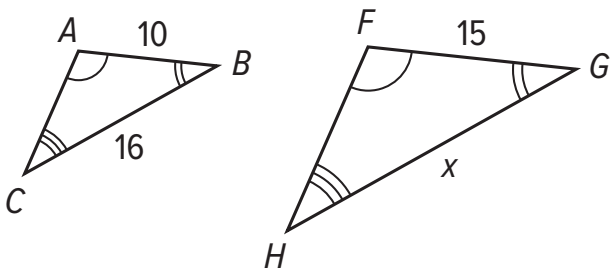
3	On a map of Nur's hometown, the distance from the stadium to a park is 3.5 inches. If the actual distance is 7 miles, what is the scale of the map?	
	A	1 inch = 0.25 miles
	B	1 inch = 0.5 miles
	C	1 mile = 0.25 inch
	D	1 mile = 0.5 inch

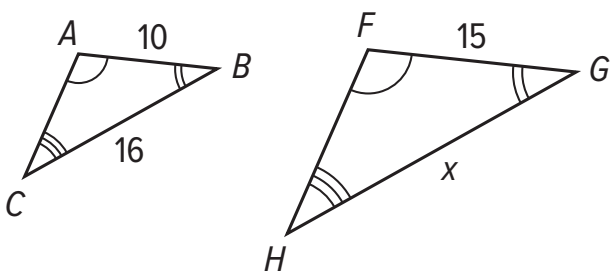
4	5 more than 4 times a number 33. What is the number?	
	A	7
	B	8
	C	9
	D	10



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5	Write 75% as a fraction in simplest form.	
	A	$\frac{1}{4}$
	B	$\frac{1}{2}$
	C	$\frac{2}{3}$
D	$\frac{3}{4}$	

6	Which segment corresponds to $\overline{BC}$ ?	
		
	A	$\overline{AB}$
	B	$\overline{FG}$
	C	$\overline{GH}$
D	$\overline{FH}$	

7	Which angle is congruent to $\angle G$ ?	
		
	A	$\angle A$
	B	$\angle B$
	C	$\angle C$
D	$\angle F$	



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8	Find the value of $y$ in the equation $\frac{y}{4} = \frac{9}{2}$ .	
	A	4.5
	B	8
	C	9
	D	18

9	How many minutes are in $4\frac{1}{4}$ hours?	
	A	44 minutes
	B	244 minutes
	C	255 minutes
	D	265 minutes

10	What vale of $b$ makes $\frac{b}{4} = \frac{1.2}{6}$ .	
	A	0.4
	B	0.8
	C	10.8
	D	24

**CONSTRUCTED RESPONSE QUESTIONS: CALCULATOR MAY BE USED**

11	Calculate $\frac{1}{\frac{3}{4}}$ . Show all working clearly.	
	marks:	/ 2



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12

A pole 20 meters high casts a shadow of 5m. A tree nearby casts a shadow of 4 meters. How tall is the tree?

marks:

/ 3

13

Hamdan's garden is a rectangle measuring 12 meters by 8 meters. Using a scale of 1 cm : 2 m draw a scaled diagram of his garden (use a ruler to draw).

marks:

/ 3

14

Saeed paints 6 meters of fencing in an hour. At this rate, how many centimeters does he paint per minute?

marks:

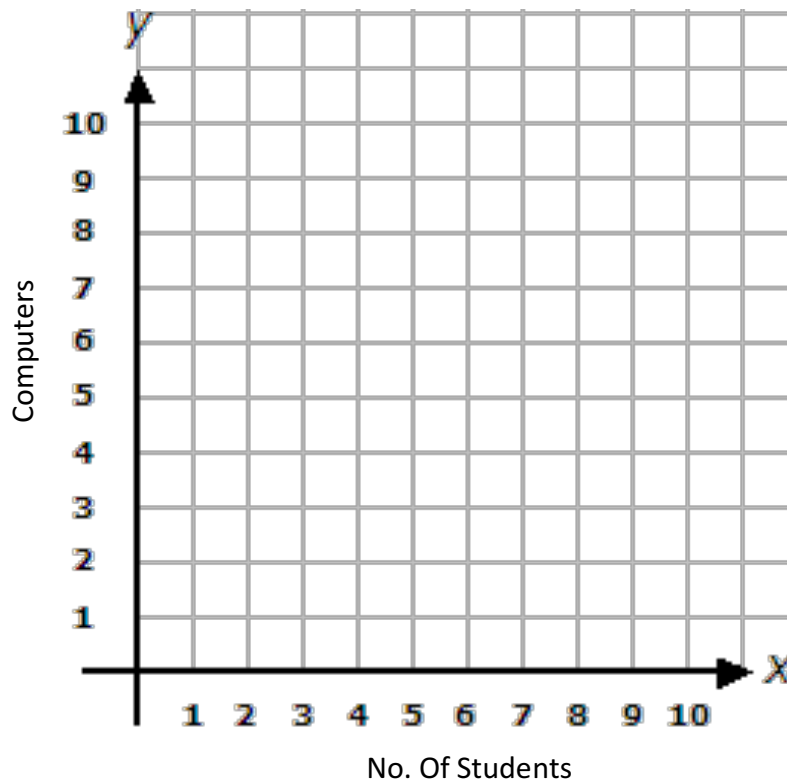
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### Grade 7: Chapter 4 Test – Ratio, Proportion and Similar Figures

Plot the ordered pairs in the table below on the graph provided.

Students (x)	1	2	3	4
Computers (y)	2	4	6	8
Ordered Pair (x,y)	(1,2)	(2,4)	(3,6)	(4,8)



15

marks: / 4

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

<b>Grade</b>	7	<b>Lesson(s)</b>	4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-7, 4-8, 4-9, 4-10
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**Grade 7: Chapter 4 Test – Ratio, Proportion and Similar Figures**

**Answer Key**

**MULTIPLE CHOICE QUESTIONS: NO CALCULATOR ALLOWED**

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


**CONSTRUCTED RESPONSE QUESTIONS: CALCULATOR MAY BE USED**

<b>Q11</b>	<b>Ans:</b> $\frac{1}{12}$	
	<ul style="list-style-type: none"> <li>Interpret question</li> <li>Answer</li> </ul>	<ol style="list-style-type: none"> <li><math>\frac{1}{3} \div 4</math> or <math>\frac{1}{3} \times \frac{1}{4}</math></li> <li><math>\frac{1}{12}</math></li> </ol>
	<ul style="list-style-type: none"> <li>Student may write <math>\frac{1}{12}</math> with no working, award 2<sup>nd</sup> mark only.</li> </ul>	

<b>Q12</b>	<b>Ans:</b> 25 m	
	<ul style="list-style-type: none"> <li>Shadow reckoning equation</li> <li>Rearrange for height of tree</li> <li>Height of tree</li> </ul>	<ul style="list-style-type: none"> <li><math>\frac{h}{4} = \frac{20}{5}</math></li> <li><math>h = \frac{20 \times 4}{5}</math> or <math>h = \frac{80}{5}</math></li> <li><math>h = 16</math> m</li> </ul>
	<ul style="list-style-type: none"> <li>If working for 1<sup>st</sup> mark is not shown, but working for 2<sup>nd</sup> mark is, award both marks.</li> </ul>	



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<b>Q13</b>	<b>Ans:</b>	
	<p>6 cm</p>  <p>4 cm</p>	
	<ul style="list-style-type: none"> <li>Length to scale</li> <li>Width to scale</li> <li>All 4 sides correct and a ruler has been used</li> </ul>	<ol style="list-style-type: none"> <li>6 cm</li> <li>4 cm</li> <li>All 4 sides correct and ruler used</li> </ol>
	<ul style="list-style-type: none"> <li>For 3<sup>rd</sup> mark, the lines must be drawn straight and not free form.</li> </ul>	

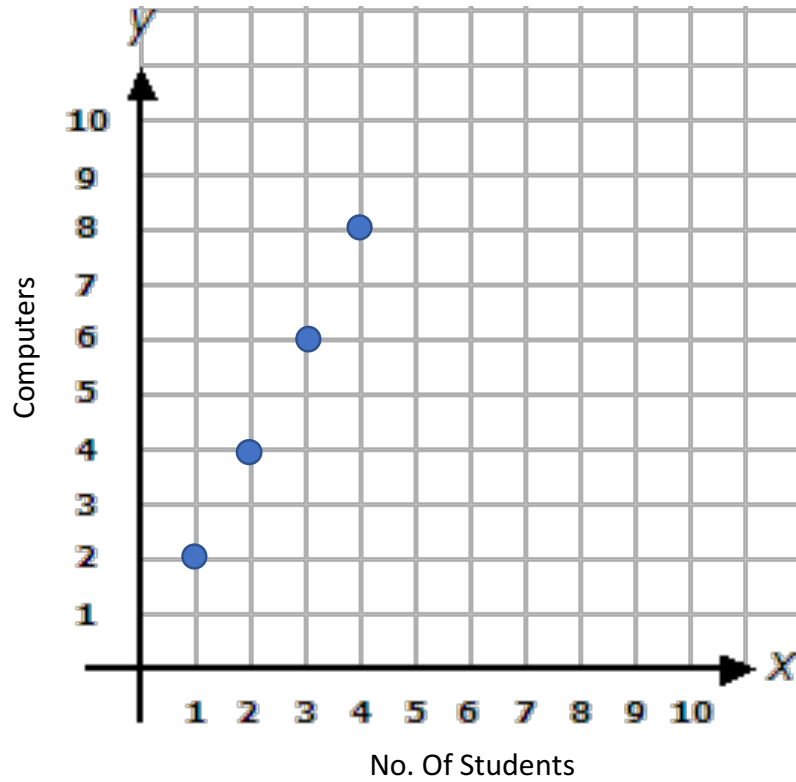
<b>Q14</b>	<b>Ans: 10 cm / minute</b>	
	<ul style="list-style-type: none"> <li>Convert meters to centimeters</li> <li>Hours to minutes</li> <li>Rate</li> </ul>	<ol style="list-style-type: none"> <li>6 m = 600 cm</li> <li>1 hour = 60 minutes</li> <li>600/60 = 10 cm / minute</li> </ol>
	<ul style="list-style-type: none"> <li>do not penalise pupils if units are not written.</li> </ul>	



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Q15

Ans:



- plot ordered pair
- plot ordered pair
- plot ordered pair
- plot ordered pair

1. (1,2)
2. (2,4)
3. (3,6)
4. (4,8)

- 1 mark for each ordered pair.