



Mathematics  
Class – 7

Candidate Name: _____	
Index Number: _____	Section: _____
Branch/Campus: _____	Date: _____
Maximum Marks: 100	Time Allowed: 2 hour

**INSTRUCTIONS:**

- ❖ Write your name, index number, section, branch/campus and date clearly in the space provided.
- ❖ Read and follow the instructions of the given questions.
- ❖ Answer all the questions in the space provided.
- ❖ Select only one answer when made to choose, otherwise no marks will be given.
- ❖ Check your answers before handing your paper in.
- ❖ Marks for each section are shown below.
- ❖ This paper consists of **13** printed pages including the cover page.

.....For Examiner’s use only.....

Sections	Section – A (60 Marks)					Section – B (40 Marks)					Total
Question	1	2	3	4	5	6	7	8	9	10	
Max. Marks	10	10	10	10	10	10	10	10	10	10	100
Marks Obtained											

Percentage	
Grade	

\_\_\_\_\_  
**INVIGILATED BY**

\_\_\_\_\_  
**MARKED BY**

\_\_\_\_\_  
**MARKS TALLIED BY**

**SECTION A**

**Q1a. Fill in the blanks.**

[ /05]

- a. The sum of the angles in a circle = \_\_\_\_\_.
- b. The next two terms of the sequence 2, 9, 16, 23 \_\_\_\_\_, \_\_\_\_\_.
- c. y intercept of the line  $-3x + 5$  is \_\_\_\_\_.
- d.  $0.25 =$  \_\_\_\_\_ %
- e. Simple form of  $60 : 12$  is \_\_\_\_\_.

**Q1b. Identify whether the statement is true or false.**

[ /05]

- a. All the integers are rational numbers. \_\_\_\_\_
- b.  $(-2)^3 = 8$  \_\_\_\_\_
- c. Equation of x-axis is  $x=0$  \_\_\_\_\_
- d. If a typist types 300 words in 30 minutes his rate of typing is 10 words per minute. \_\_\_\_\_
- e. If a car travels at an average speed of 120km/h for 2 hours then the distance covered is 240 km. \_\_\_\_\_

**Q2a. Identify which of the following are rational and which of them are irrational?**

[ /05]

Number	Rational	Irrational
8.123		
$2\pi$		
$\sqrt{9}$		
$\frac{22}{7}$		
3.142...		

**Q2b. find the gradient of each of the following.**

[ /02]

- i.  $y = 8 - 2x$   
\_\_\_\_\_
- ii.  $3y = 4x + 12$   
\_\_\_\_\_

Q2c. Convert  $8\frac{1}{4}$  hours into \_\_\_\_\_ minutes. [ /01]

Q2d. Find percentage change in an increase from 120 to 150. [ /02]

Q3a. Find the smallest value of m, such that the LCM of m and 34 is 374. [ /02]

Q3b. The numbers 240 and 720 are written as the product of their prime factors.

$$240 = 2^4 \times 3 \times 5$$

$$720 = 2^4 \times 3^2 \times 5$$

Find the H.F.C. [ /02]

Q3c. Evaluate the following [ /06]

i.  $4 - [(-2) \times 3]$

ii. -  $\frac{7}{2} \times \frac{7}{3} \times \frac{5}{7} \times \frac{21}{10}$

**Q4a. John spends  $5\frac{4}{7}$  hrs for his test preparation. If he spends  $\frac{2}{3}$  of his total time on mathematics revision, find the amount of time he spends on Mathematics. [ /03]**

**Q4b. Given that  $x : 3 : 2 = 7 : 5 : y$ , find the values of x and y. [ /04]**

**Q4c. If  $a : b = \frac{3}{5} : 4$  and  $b : c = 5 : 6$ , find  $a : b : c$ .**

[ /03]



**SECTION B**

**Q5a. Micheal sells eggs at \$1.50 per half dozen, whereas Kate sells eggs of the same size at \$ 2.40 per dozen. From whom you will buy the eggs?**

[ /04]



**Q5b. A profit of \$42500 is divided among three persons x, y and z in the ratio 2: 3: 5. Find the share of each person.**

[ /06]



**Q6a. Covert the following:**

[ /02]

i. 250m/s to km/h

ii. 180km/min to m/s

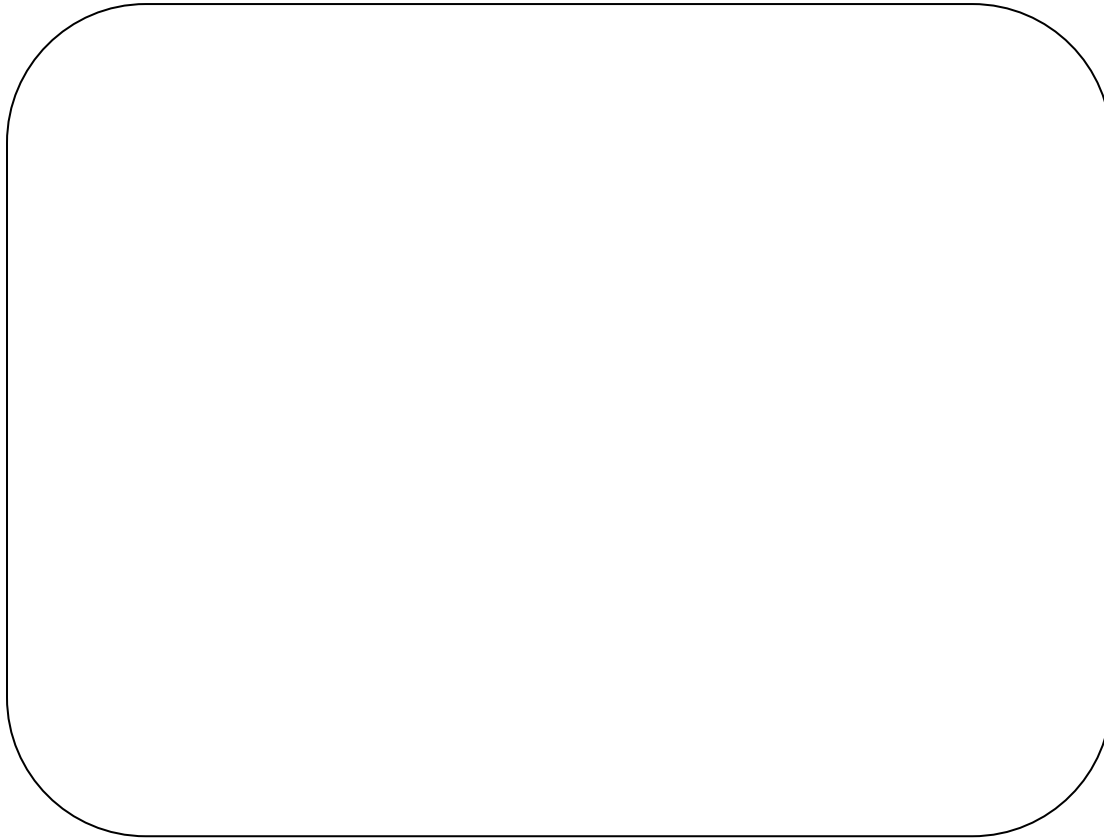
**Q6b. If Jane drives at a speed of 65km/h. Calculate the distance she covered in 2.5 hours.**

[ /02]

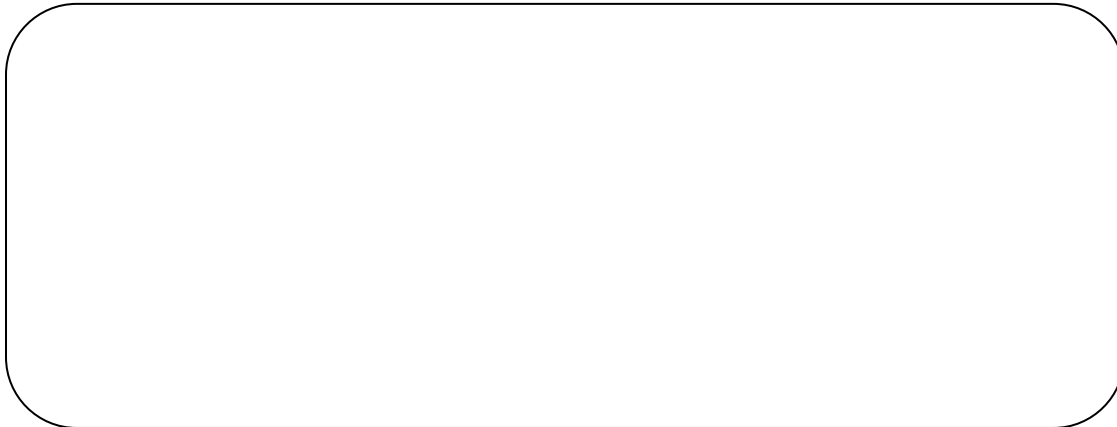
**Q6c. The distance between two towns is 540 km. Train's average speed is 120km/h. Calculate the time taken in hours by the train.**

[ /02]

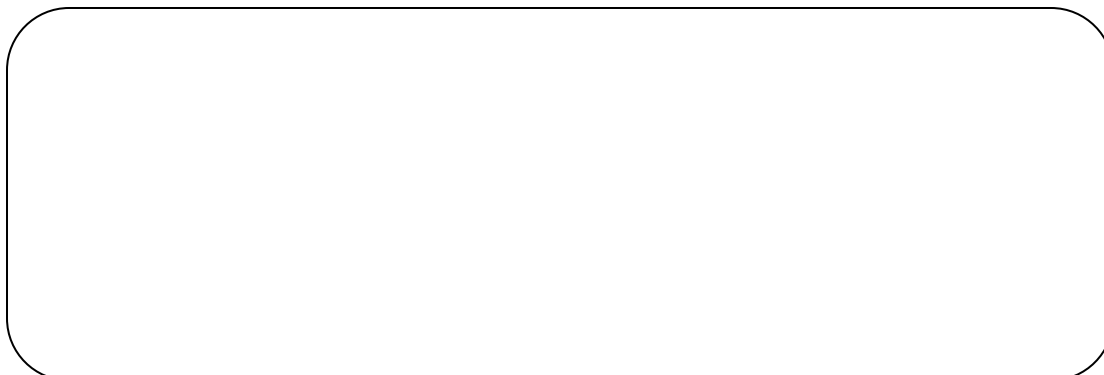
**Q6d. George drives first 120 km in  $1\frac{1}{2}$  hours and next 180 km at an average speed of 120km/h. What is his average speed for the entire trip in km/h. [ /04]**



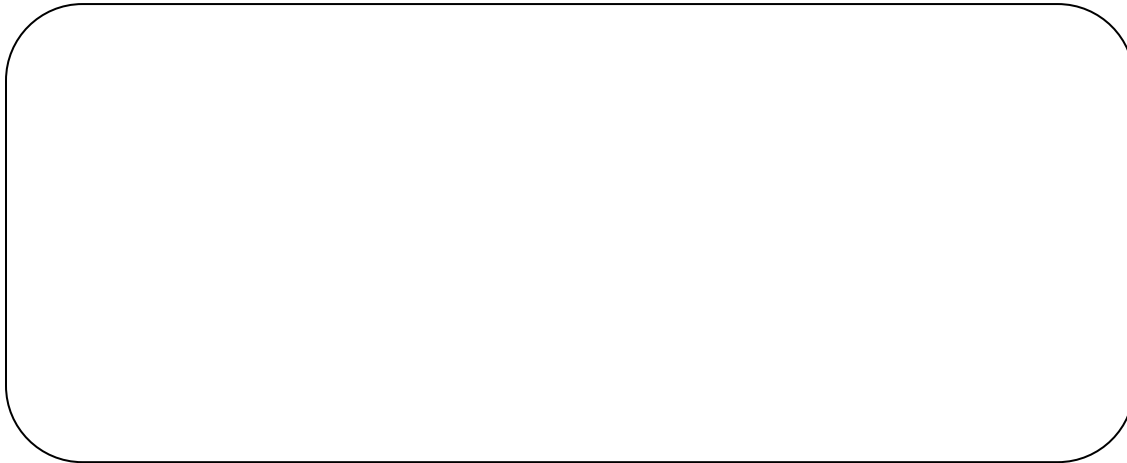
**Q7a. 325% of a number is 2600. Find the original number. [ /02]**



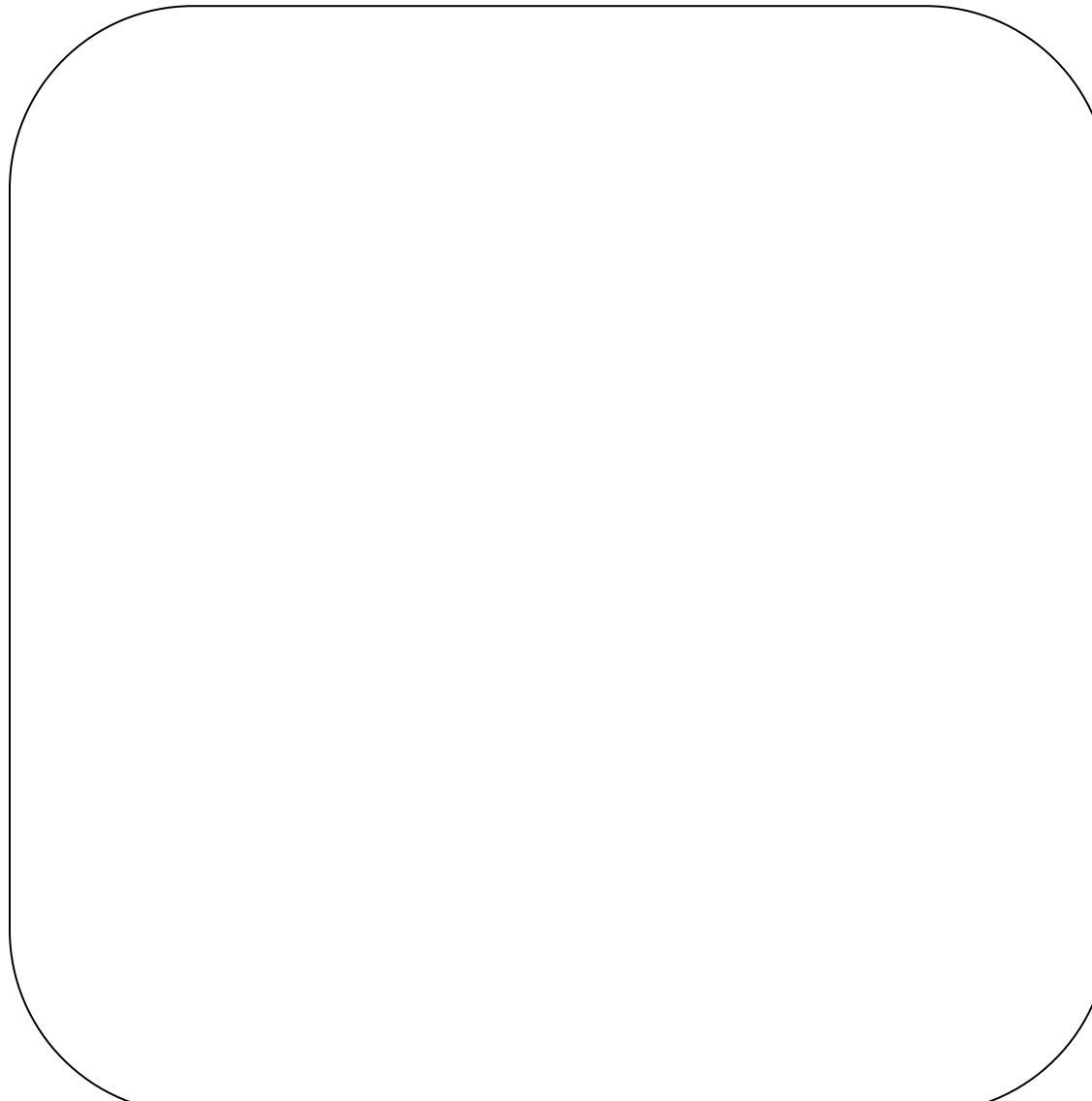
**Q7b. The result of a number when increased by 12.5% is 90. Find the number. [ /02]**



**Q7c. Students at an Engineering College last year received, on an average, \$2,950 in scholarships and grant money. This year, the average is 50% higher than the previous year. What is the average this year?** [ /02]

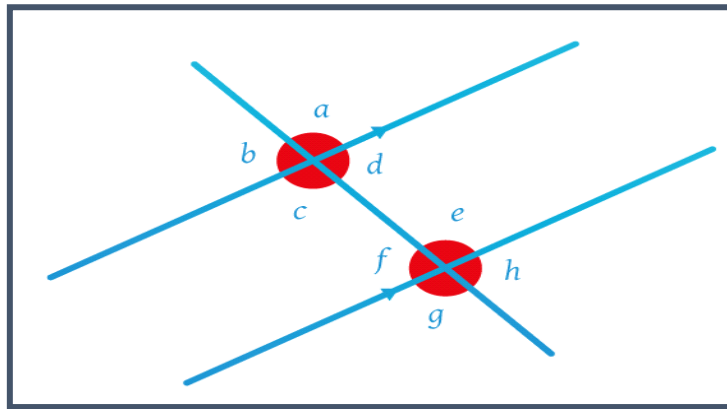


**Q7d. The value of a wooden table is decreased by 20% of its value in the previous year. If the value of the table in 2019 is \$3020. Find its value in 2017(Round off to nearest whole number).** [ /04]





**Q8a. Line m is parallel to line n**



**i. Write down one pair of alternate angles.** [ /01]

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**ii. Is angle c + angle h = 180 degrees? Explain your answer.** [ /01]

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**iii. If angle g is 117 degrees, calculate angle b.** [ /01]

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**iv. If angle a is 48 degrees, what will be the value of angle c and angle e?** [ /01]

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**Q8b. Consider the pattern.**

$$\frac{1}{1 \times 2} = \frac{1}{1} - \frac{1}{2}$$

$$\frac{1}{2 \times 3} = \frac{1}{2} - \frac{1}{3}$$

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

$$\frac{1}{4 \times 5} = \frac{1}{4} - \frac{1}{5}$$

$$\begin{matrix} \vdots \\ \frac{1}{240} = \frac{1}{m} - \frac{1}{n} \end{matrix}$$

**a. Write the 15<sup>th</sup> row.** [ /01]

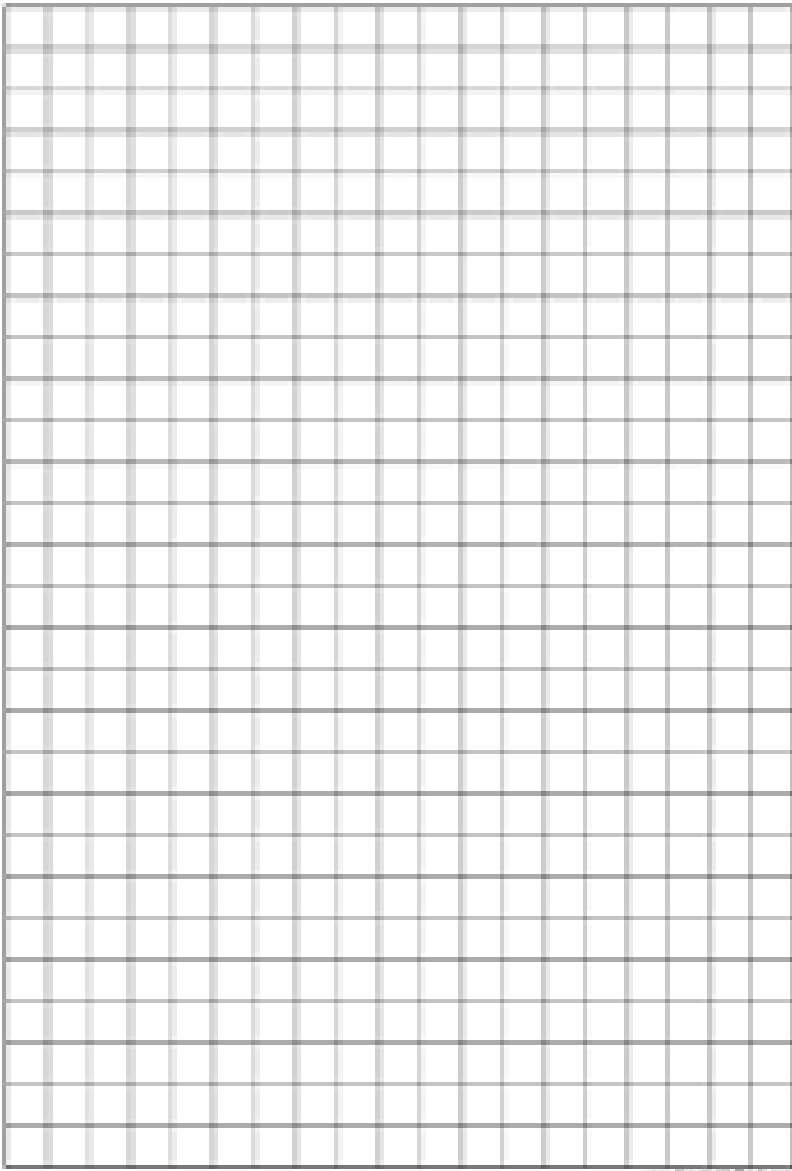
b. Using the pattern find the value of  $\frac{1}{12} - \frac{1}{13}$  [ /02]

c. Find the value of m and n. [ /03]

Q9a. On a sheet of graph paper , using a scale of 1 cm to represent 1 unit on both axes , draw the graph of the function  $y = -x + 6$  for values of x from -4 to 4.

[ /08]

x			
y= -x + 6			



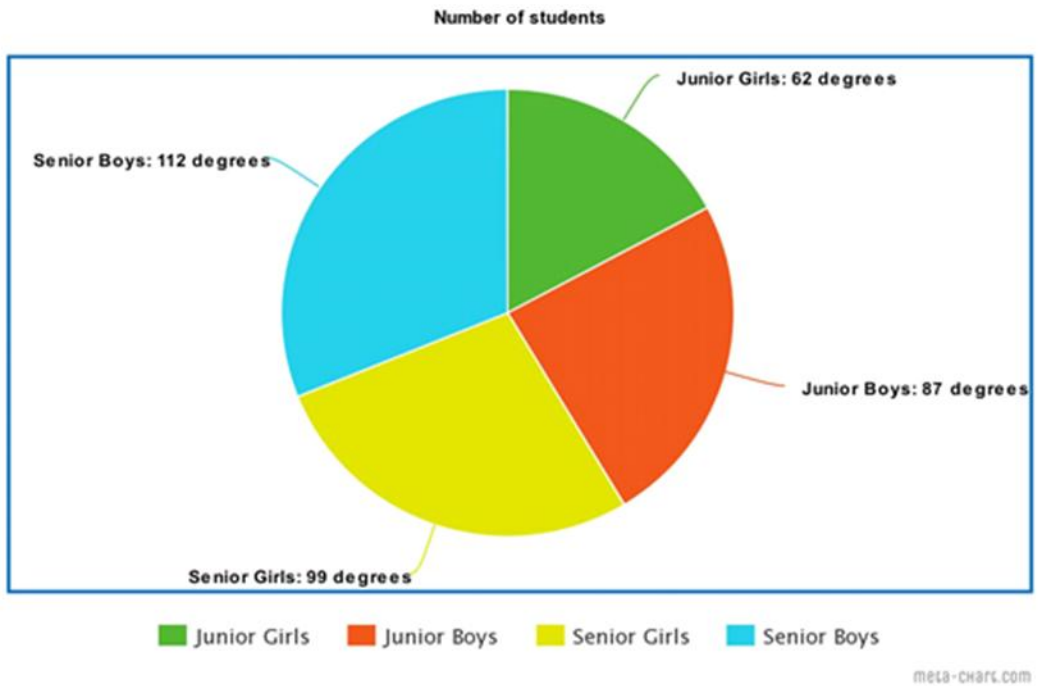
**Q9b. From the graph find the value of:-**

**[ /02]**

i.  $y$  when  $x = -1$  \_\_\_\_\_

ii.  $x$  when  $y = 4$  \_\_\_\_\_

**Q10a.** The pie chart below shows the students participation from junior and senior section at the school's sports gala.



**i.** What percentage of Junior girls attended the sports gala? [ /02]

**ii.** There were 70 Junior Boys who attended the sports gala. What was the total number of students who attended the event? Give your answer in whole number. [ /02]

iii. Hence, find the number of total girls who attended the event? Give the answer in whole number. [ /06]

