Class : 5　　　　　　　　　　*Mathematics*

1.　**Study the pattern of fractions.**

$$\frac{3}{4}, \quad 1\frac{4}{5}, \quad 2\frac{5}{6}, \quad \boxed{?}, \quad 4\frac{7}{8}$$

How is the missing fraction expressed as a mixed fraction ?

(A)　$6\frac{3}{7}$　　(B)　$7\frac{3}{5}$　　(C)　$3\frac{6}{7}$　　(D)　$6\frac{1}{7}$

2.　**What is the perimeter of the given figure if all the measures are in cm ?**
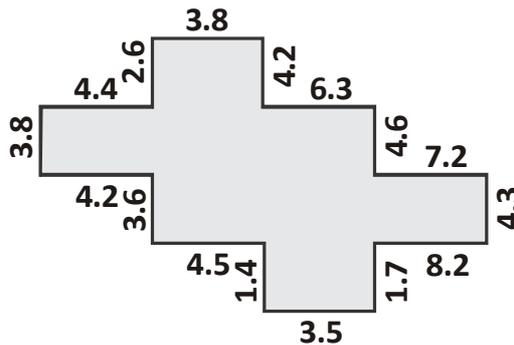

(A)　68.2 cm　　　　　　(B)　68.1 cm

(C)　86.3 cm　　　　　　(D)　68.3 cm

3.　**What is the ratio of the area of rectangle A to the area of rectangle B ?**
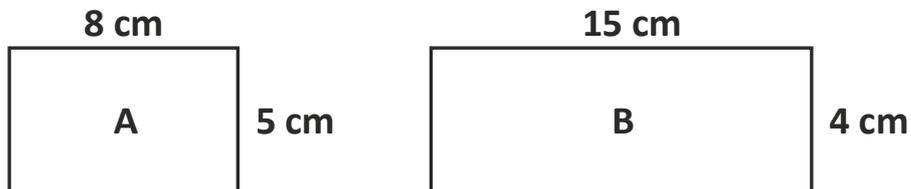
(A)　1 : 2　　(B)　1 : 3　　(C)　2 : 3　　(D)　3 : 2

4. **Find the area of the shaded part.**
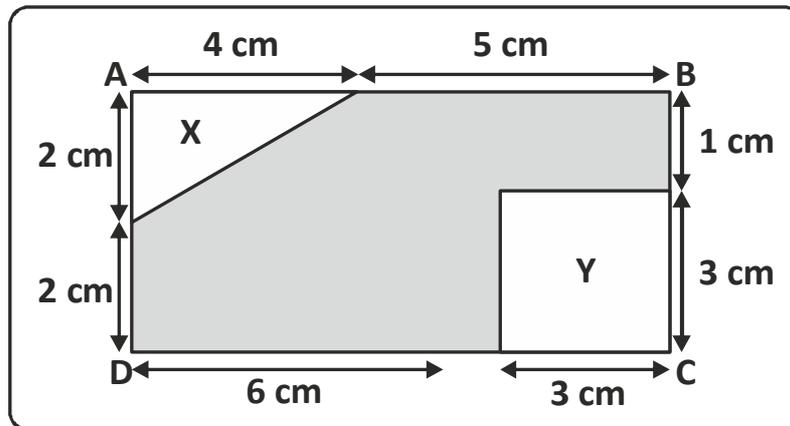

(A) 23 cm²   (B) 24 cm²

(C) 27 cm²   (D) 30 cm²

5. **What is the average time taken by the boys to complete the race ?**
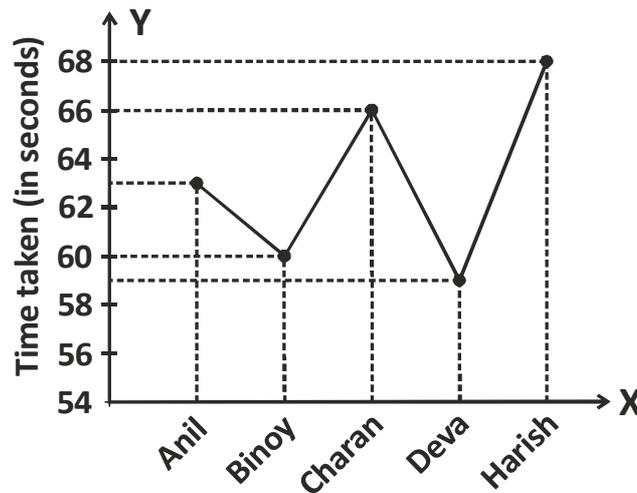
(A) 62.5 seconds   (B) 63.2 seconds

(C) 64 seconds   (D) 63 seconds

Class : 5   *General Science*

6.   **Study the given figure. In this case the hammer acts as a**
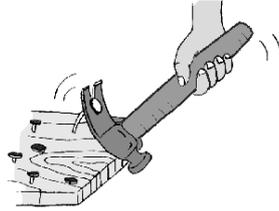
(A) Ist order lever   (B) IInd order lever

(C) Inclined plane   (D) Pulley

7.   **Ravi observed water droplets on the leaves of a plant on a cold morning as shown in the figure given below. The water droplets are formed by the**

(A) condensation of water vapour in air.

(B) freezing of water in leaves.

(C) evaporation of water from leaves.

(D) all of these.

8.   **Which of the following is 'X' in the figure given below ?**
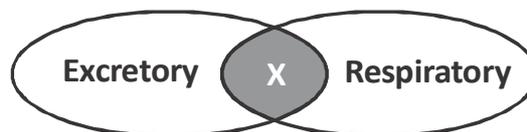
(A) Kidney   (B) Lungs   (C) Stomach (D) Heart

9. How are the following animals similar ?
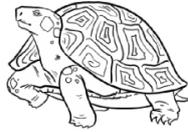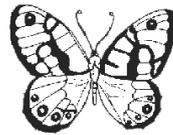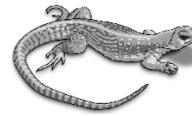
tortoise   moth   lizard

(A) They can crawl   (B) They can fly

(C) They lay eggs   (D) They have four legs.

10. Mary drops a stone into a beaker of water. She notices that the level of water rises in the beaker.

beaker
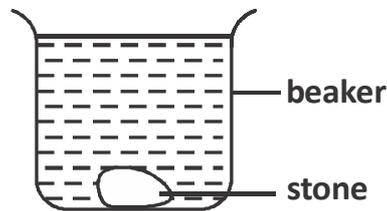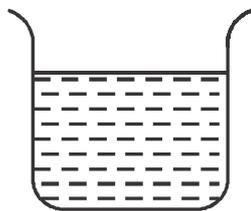
stone

The experiment that Mary has done tells her that the stone

(A) has no mass.

(B) has the same volume as the water.

(C) has no volume.

(D) occupies space.

**11.** **Find the shape that cannot be made by overlapping the two given figures.**
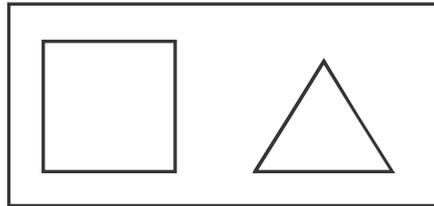
(A)   (B)   (C)   (D)

12. **Find the total number of wooden blocks used in a figure with the following top, front and side views.**
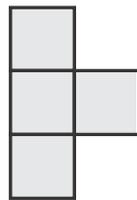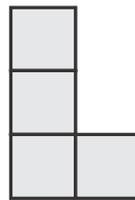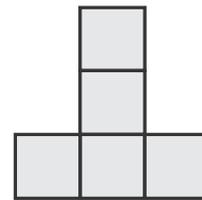
Top   Front   Right side

(A) 8   (B) 6   (C) 5   (D) 4

13 **Which two points in the figure must be joined to divide the complete region into two identical parts ?**

(A) US   (B) RT   (C) RQ   (D) PS

14. There are a total of 6 bicycles and tricycles. If there is a total of 15 wheels, how many bicycles and tricycles are there ?

(A) 2, 4   (B) 3, 3   (C) 4, 2   (D) 1, 5

15. Write the name of the fruit described.

- This fruit is not in column B.
- This fruit is not in the same row or column as the grapes.
- This fruit is not in row 1.

(A) Apple   (B) Mango

(C) Banana   (D) Strawberry
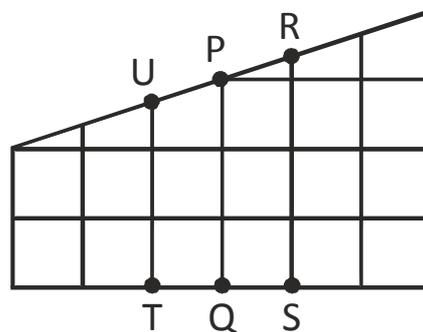
UNIFIED COUNCIL
An ISO 9001:2008 Certified Organisation

nstse
Test • Assess • Achieve

NATIONAL LEVEL SCIENCE TALENT SEARCH EXAMINATION

Solutions for Class : 5

MATHEMATICS

1. **(C)** $\frac{3}{4}, 1\frac{4}{5}, 2\frac{5}{6}, \boxed{?}, 4\frac{7}{8}$

$= \frac{3}{4}, \frac{9}{5}, \frac{17}{6}, \boxed{}, \frac{39}{8}$

with $+6, +8, +10, +12$ on top and $+1, +1, +1, +1$ below
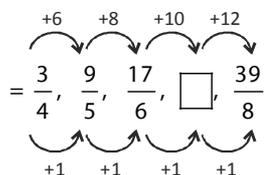
∴ The missing fraction

$\dfrac{17}{6} \quad \dfrac{10}{1} \quad \dfrac{27}{7} \quad 3\dfrac{6}{7}$

2. **(D)** Perimeter of the given figure

3.8 + 4.4 + 2.6 + 3.8 + 4.2 + 6.3 + 4.6 + 7.2 + 4.3 + 8.2 + 1.7 + 3.5 + 1.4 + 4.5 + 3.6 + 4.2 = 68.3 cm.

3. **(C)** Area of rectangle A : Area of rectangle B

$= (8 \times 5) \text{ cm}^2 : (15 \times 4) \text{ cm}^2$

$= 40 : 60 \qquad = 2 : 3$

4. **(A)** Area of X $= \frac{1}{2} \times bh = \frac{1}{2} \times 4 \times 2 = 4 \text{cm}^2$

Area of Y $= S^2 = 3 \times 3 = 9 \text{ cm}^2$

Area of rectangle = l × b = (9 × 4) = 36 cm²

∴ Area of shaded part = 36 – (4 + 9) = 36 – 13 = 23 cm².

5. **(B)** Average time taken by the boys

$= \dfrac{63 \quad 60 \quad 66 \quad 59 \quad 68}{5}$

$\dfrac{316}{5}$ = 63.2 seconds

GENERAL SCIENCE

6. **(A)** The given figure shows the action of pulling out of nail by hammer. It is an example of I order lever.

7. **(A)** The waterdroplets formed on the leaves of plant on a cold morning is due to condensation of water vapour in air.

8. **(B)** X in the given figure is lungs. Lungs are the respiratory and excretory in function.

9. **(C)** The tortoise, moth and lizard reproduce by laying eggs. Only the lizard crawls. The moth is an insect, so it has six legs, not four.

10. **(D)** The stone occupies the space in the beaker of water. The amount of space it occupies is called volume.

CRITICAL THINKING

11. **(D)**

12. **(B)**

13. **(D)**

14. **(B)**

15. **(D)**