CREST

olympiads

#CRESTInnovator

CREST Mathematics Olympiad (CMO)
Worksheet *for*

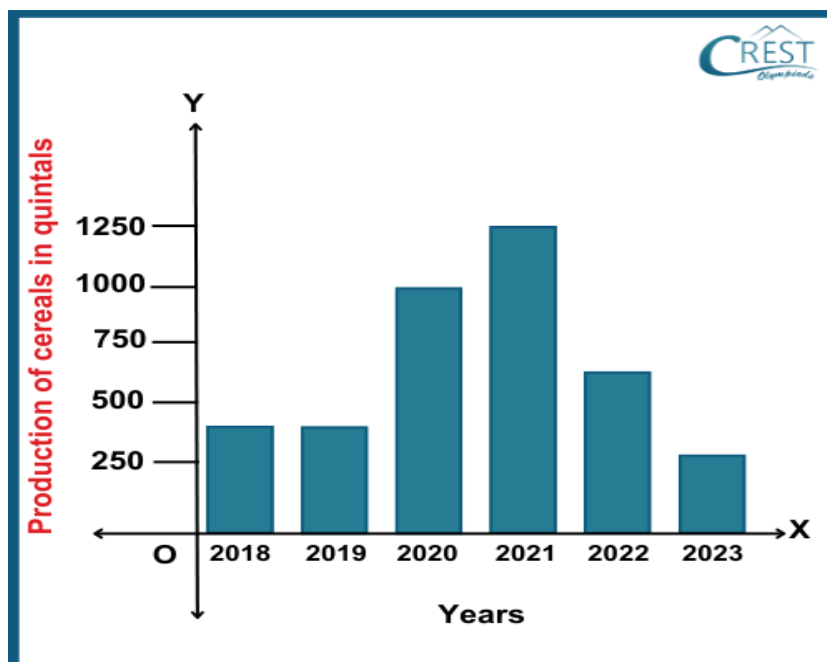## Class 7

Worksheet on Data Handling

1. **A bar graph shows the daily routine of Adam.**
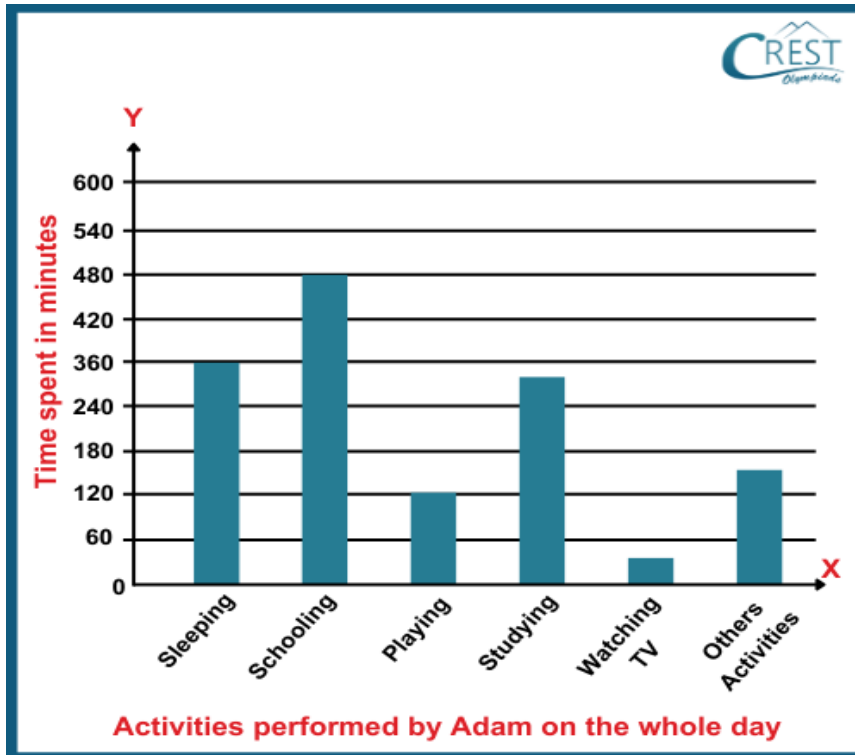
   **How many extra hours are spent on schooling and studying than sleeping?**

   a. 5 hours
   b. 7 hours
   c. 9 hours
   d. 11 hours

2. **The bars of the histogram denote the production of cereals in the different years. Study the histogram carefully and answer the question.**

What is the range in tons of production of cereals from 2018 to 2023?

a. 0.1 tons
b. 10 tons
c. 100 tons
d. 1000 tons

3. **The pie chart shows how many students in a school like different kinds of outdoor games.**
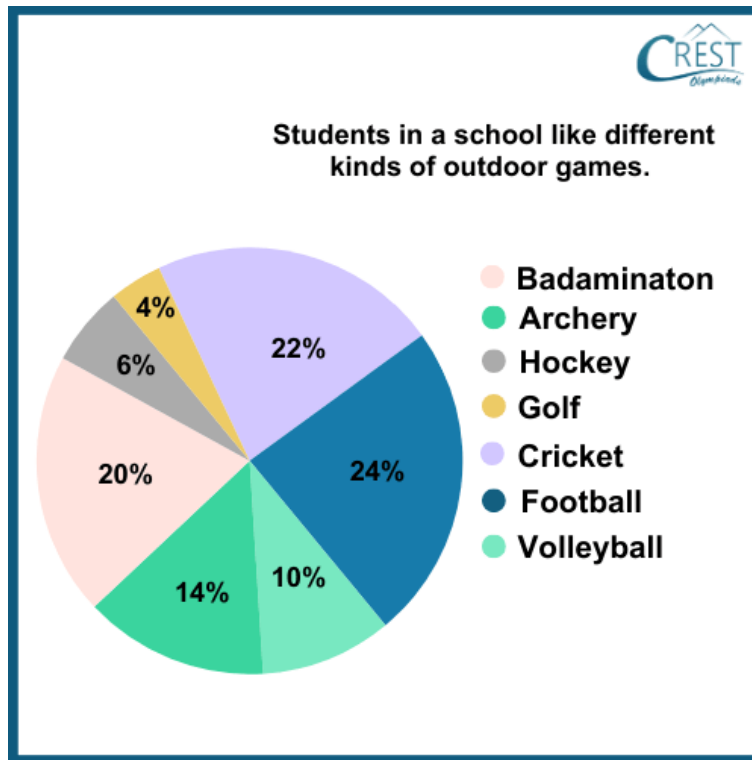
How many more students like hockey and archery than badminton, volleyball, hockey and golf if the total strength of students in a school is 4595?

a. 909 students
b. 919 students
c. 1818 students
d. 1838 students

4. **Find the median of the given data:**

25, 14, 32, 58, 45, 63, 38

a. 14
b. 25
c. 38
d. 58

5. **Read the events carefully and answer the question.**

   Event A: Keith Warne tosses two coins simultaneously. He gets at least two heads.
   Event B: Donald McGrath tosses two coins simultaneously. He gets at least one head.
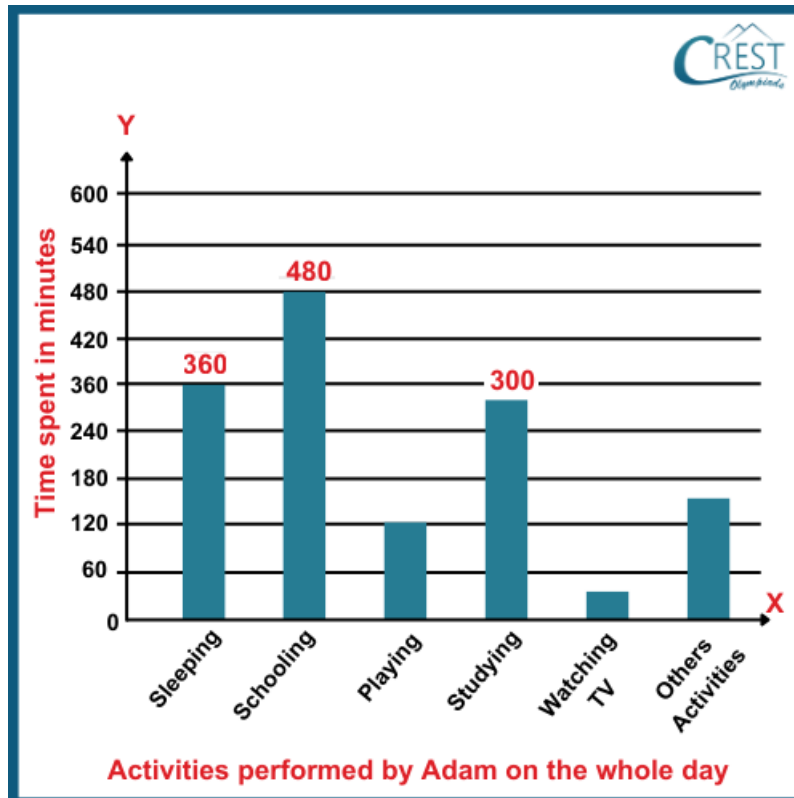   **Event C: Rodger Waugh tosses two coins simultaneously. He gets at most one tail.**
   Which of the above event(s) has a probability equal to 0.50?

   a. All events A, B and C
   b. Only event A
   c. Only event B
   d. Only event C

Answer Key

1. b - 7 hours

   Explanation: Time spent on schooling, studying and sleeping are shown in the graph:

   Time spent on schooling = 480 minutes = 480/60 = 8 hours
   Time spent on schooling = 300 minutes = 300/60 = 5 hours
   Time spent on sleeping = 360 minutes = 360/60 = 6 hours
   Extra hours spent on schooling and studying than sleeping = (8 + 5) − 6
   = 13 − 6
   = 7 hours

2. c - 100 tons

Explanation: Highest cereals production in 2021 = 1250 quintals
Lowest cereals production in 2023 = 250 quintals
[1 ton = 10 quintals ⇒ 1 quintal = 1/10 tons]
Range in tons of production of cereals from 2018 to 2023
= Highest cereals production in 2021 − Lowest cereals production in 2023
= 1250 − 250
= 1000 quintals
= 1000/10 tons
= 100 tons

3. b - 919 students

Explanation: Total number of students in a school = 4595
Percentage of students who like hockey and archery = 6% + 14% = 20%
Number of students who like hockey and archery = 20% of 4595
= 20/100 × 4595
= 919 students
Percentage of students who like badminton, volleyball, hockey and golf
= 20% + 10% + 6% + 4%
= 40%
Number of students who like badminton, volleyball, hockey and golf
= 40% of 4595
= 40/100 × 4595
= 1838 students
Number of students who like hockey and archery more than badminton, volleyball, hockey and golf = 1838 − 919 = 919 students

4. c - 38

Explanation: Arrange the given data in ascending order:
14, 25, 32, 38, 45, 58, 63
n = 7

$$\text{Median} = \left[\frac{(n + 1)}{2}\right]^{th} \text{term}$$

Median = (7 + 1)th / 2
= 8th / 2
= 4th
The 4th term in the given data:
14, 25, 32, 38, 45, 58, 63
The median is 38.

5. d - Only event C

Explanation: Two coins are tossed. Total number of outcomes (HT, TH, HH, TT) = 2 × 2 = 4
Event A: Keith Warne tosses two coins simultaneously. He gets at least two heads.
Probability of getting at least two heads (HH) = ¼ = 0.25
Event B: Donald McGrath tosses two coins simultaneously. He gets at least one head.
Probability of getting at least one head (HT, TH, HH) = ¾ = 0.75
Event C: Rodger Waugh tosses two coins simultaneously. He gets at most one tail.
Probability of getting at least one tail (HT, TH) = 2/4 = ½ = 0.5
Therefore, only Event C has a probability equal to 0.50.

More Questions Coming Soon – Keep Learning!

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