Quantitative Reasoning

The cost price of 59 notebooks is selling price of 50 notebooks. Then the profit percentage is

A) 13.333 %
B) 20 %
C) 9 %
D) 18 %

_____

The scale of a map is given as 5 cm: 60 km. Two cities are 4 cm apart on the map. What is the actual distance between the cities?

A) 40 km
B) 70 km
C) 48 km
D) 30 km

A bus started at City A at 7:00 AM and reached   City B at 9:30 AM. If the bus does not stop in between and is travelling at 60 kmph speed on average, find the approximate distance between City A and City B.

A) 120 km
B) 230 km
C) 150 km
D) 60 km

Aisha gave one-fourth of her money to Balu. Then, Balu gave one-third of what he got from Aisha to John. If Aisha has Rs. 45 left now, how much did John get?

A) 4.5
B) 5
C) 15
D) 6

The average age of Anu and Binu is 20. If their ages are in the ratio Anu: Binu = 3:2, then the age of Anu is

A) 24 years
B) 12 years
C) 8 years
D) 30 years

Arjun alone can paint a house in 12 days and Ram alone can paint the house in 24 days. How many days does it take for them to paint the house together?

A) 12 days
B) 10 days
C) 6 days
D) 8 days

The following graph shows the information on average rainfall in Mahismati city over last 25 years. Among the following statements find the true one.

Rainfall - Mahismati city
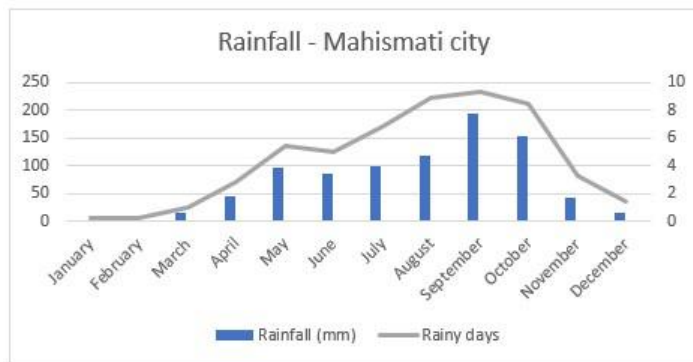
A) On an average the city receives more rain in April than in August.
B) On an average it rains more often in May than in June.
C) On an average December is the driest month.
D) On an average October is the wettest month.

Order the following numbers in increasing order:

$$-\frac{2}{3}, \frac{3}{2}, -\frac{1}{3}, \frac{2}{3}$$

A) $-\frac{2}{3} < -\frac{1}{3} < \frac{2}{3} < \frac{3}{2}$

B) $-\frac{1}{3} < -\frac{2}{3} < \frac{2}{3} < \frac{3}{2}$

C) $-\frac{2}{3} < -\frac{1}{3} < \frac{3}{2} < \frac{2}{3}$

D) $-\frac{1}{3} < -\frac{2}{3} < \frac{3}{2} < \frac{2}{3}$

A and B are two numbers. A is 20% more than C and B is 50% more than C. The ratio of the numbers (A: B) is

A) 4:5

B) 5:2

C) 3:4

D) 2:5

If today is Sunday, what day would it be after 25 days?

A) Sunday

B) Tuesday

C) Thursday

D) Saturday

The price of 2 kilograms of apples is the same as 5 kilograms of bananas. You have enough money to buy 30 kilograms of bananas. How many kilograms of apples can you buy?

A) 60

B) 15

C) 10

D) 12

The areas of two circles are 100 square meters and 25 square meters respectively. Then the ratio of the circumference of the larger circle to the circumference of the smaller circle is

A) 5:2

B) 4:1

C) Need to know the value of π to find the answer

D) 2:1

Mr. X claims, "nobody in this class knows more history than me." What should you do to prove him wrong?

A) Find at least one person who knows more history than Mr. X.

B) Demonstrate that Mr. X has no knowledge in history.

C) Demonstrate that everyone knows more history than Mr. X.

D) Give Mr. X a test on history.

There are 30 students in class. Find which among the following is always true.

A) There are at least two students whose name start with the alphabet A.

B) There are at least two students whose name start with the same alphabet.

C) There are at most two students whose name start with the alphabet A.

D) There are at most two students whose name start with the same alphabet.

What percentage of a minute is a second?

A) 0.60 %

B) 1.67 %

C) 0.24 %

D) 2.5 %

How many people must be there in a room to guarantee that at least 3 of them were born in the same month?

A) 25

B) 36

C) 37

D) 93

The number of multiples of 4 between 10 and 250 is

A) 59

B) 60

C) 63

D) None of the above

"There is a tree in this campus all of whose leaves are green"

If the above statement is false, then

A) Every tree in this campus has at least one leaf that is not green.

B) There is a tree in this campus which has at least one leaf that is not green.

C) There is a tree in this campus all of whose leaves are not green.

D) Every leaf in each tree in this campus is not green.

If A and B are sets such that A U B = A ∩ B , then

A) A is empty set

B) B is empty set

C) $A = B$

D) None of the above.

The average age of three girls is 15. If their ages are in ratio 3 : 5 : 7, then the age of the youngest girl is

A) 9 years

B) 12 years

C) 15 years

D) 18 years

The rail route from Bangalore to Delhi is 2380 km long. If the average speed of Rajdhani express is 70 km/hr how many hours would it take to complete the journey from Bangalore to Delhi?

A) 33
B) 34
C) 24
D) 37

The sides of a triangle are in the ratio 2 : 5 : 8. The triangle is

A) Acute angled
B) Right angled
C) Obtuse angled
D) Such a triangle is impossible

If the speed of sound is 343 m/s, how many kilometers can it travel in an hour?

A) 343 km
B) 1234.5 km
C) 1234.8 km
D) 95.28 km

The area of the largest triangle that can be inscribed in a semicircle of radius 3 is

A) 9 sq. units
B) $\frac{\pi}{2} \times 9$ sq. units
C) 18 sq. units
D) $\frac{9}{2}$ sq. units

27)   In an examination 80% of the students passed in mathematics and 85% of the students passed in English. If 73% of the students passed on both subjects, then what percentage of the students failed in both subjects?

A) 8%
B) 27%
C) 12%
D) 15%

The average of the first 95 natural numbers is

A) 95
B) 47.5
C) 48
D) 49

If 35% of X is 25% of Y and 50% of Y is 72% of Z,   then

A) $Y > Z > X$
B) $Y > X = Z$
C) $Y > X > Z$
D) $X > Y > Z$

The unit digit of 234 is 4. What is the unit digit of 2^{12} ?

A)   2
B) 4
C) 6
D) 8

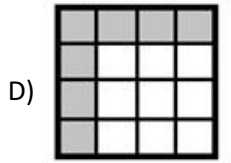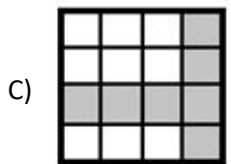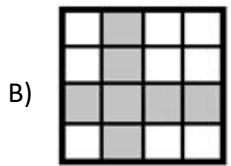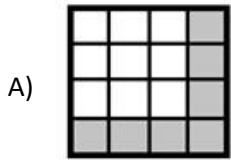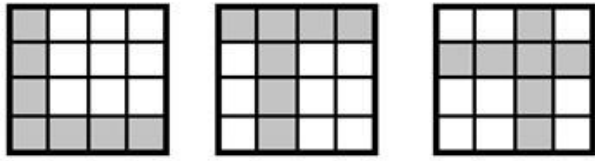357 is not a multiple of?

A) 3
B) 5
C) 17
D) 7

What decimal of an hour in a second?

A) 0.0001
B) 0.0256
C) 0.00012
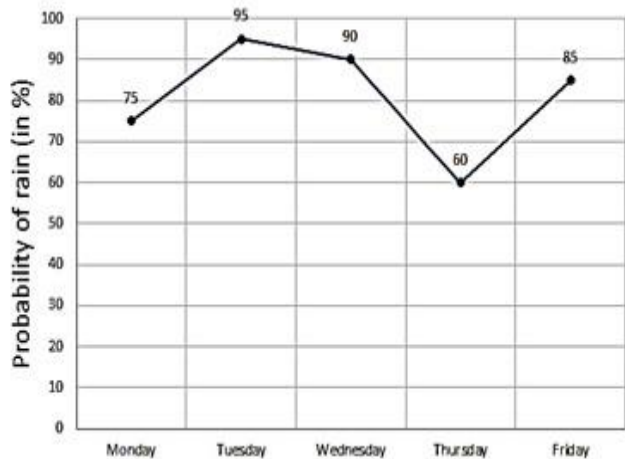D) 0.00027

Which shape comes next in the pattern below?

If you have a cardboard square of side 3 cm, and cut out a circle of radius 1 cm, what is the area of the remaining shape (in cm2)?

A) -2π
B) $12 - \pi$
C) $12 - 2\pi$
D) $9 - \pi$

Suppose xy = 1 and y = 50. Then x equals

A) 0.5
B) 0.2
C) 0.02
D) 0.05

The graph below shows the probability of rain in Bangalore for the coming week.

A)

B)

C)

D)

Suppose X is 5% of 30 and Y is 3% of 80. Then

A) 5X = 3Y
B) Y is bigger than X
C) 3X = 5Y
D) X is bigger than Y

A goat needs 2.5 kgs of grass per day. If you have 100 kgs of grass, for how many days can you feed two goats?

A) 20 days
B) 25 days
C) 40 days
D) 80 days

A and B are two numbers. A is 20% less than C and B is 60% more than C. The ratio of the numbers (A: B) is

A) 1:3
B) 2:3
C) 3:2
D) 1:2

Arjun and Ram together can do a piece of work in 6 hours. If Arjun alone can do the work in 15 hours, then how many hours does Ram take to do the work alone?

A) 12 hours
B) 10 hours
C) 4.5 hours
D) 8 hours

The price of 3 kilograms of apples is the same as 5 kilograms of bananas. You have enough money to buy 20 kilograms of bananas. How many kilograms of apples can you buy?

A) 60
B) 15
C) 10
D) 12

The average age of Anu and Binu is 14. If their ages are in the ratio Anu : Binu = 4:3, then the age of Anu is

A) 7
B) 10
C) 9

Order the following numbers in increasing order:
$-1.2, \ 2.3, -0.4, \ 0.4$

A) $-1.2 < -0.4 < 2.3 < 0.4$
B) $-0.4 < -1.2 < 0.4 < 2.3$
C) $-0.4 < -1.2 < 2.3 < 0.4$
D) $-1.2 < -0.4 < 0.4 < 2.3$

A bus started at Mysuru at 7:00 AM and traveled to Bengaluru. The distance between Mysuru and Bengaluru is 150 km. If the bus does not stop in between and is travelling at 90 kmph speed on average, then the bus should reach Bengaluru

A) before 8:30 AM
B) before 9:00 AM
C) between 9:00 AM and 10:00 AM
D) after 9:30 AM

The scale of a map is given as 3 cm: 60 km. Two cities are 4.5 cm apart on the map. What is the actual distance between the cities?

A) 70 km
B) 80 km
C) 90 km
D) 100 km

The following graph shows the cumulative rainfall (in mm) received during a week in Mahismati city. The readings are taken at the end of the day. Find the amount of rainfall on Thursday.

Rainfall - Mahismati city
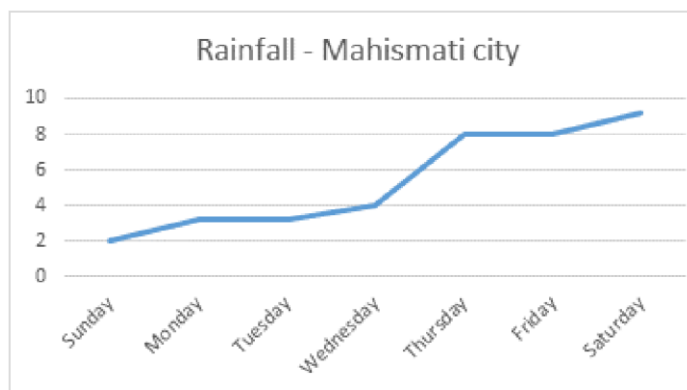
A) 4 mm
B) 0 mm
C) 8 mm
D) 3.2 mm

There are 22 students in class. Find which among the following is always true.

A) There are at least four students who are born on the same day of the week.
B) There are at least four students who are born on Sunday.
C) There are at most four students who are born on the same day of the week.
D) There are at most four students who are born on Sunday.

If the side length of square A is 3 times larger than the side length of square B, then how many times larger is the area of square A compared to that of square B?

A) 1/3 times
B) 1/9 times
C) 9 times
D) 3 times

The cost price of 10 bags of tomatoes is the selling price of 12 bags of tomatoes. Then the loss percentage
is

A) 10 %
B) 6 %
C) 12 %
D) 16.67 %

When asked to evaluate his first 100 days in office, the president of a country said, "I have done more than any president." If he is wrong, then which among the following is correct.

A) Every president performed better than him in the first 100 days.
B) There was at least one president who performed better than him in the first 100 days.
C) His performance was poor in the first 100 days.
D) No president performed better than him in the first 100 days.

If the time now is 1:00 PM, what time is it 20 hours from now?

A) 9:00 PM
B) 4:00 AM
C) 9:00 AM
D) 8:00 AM

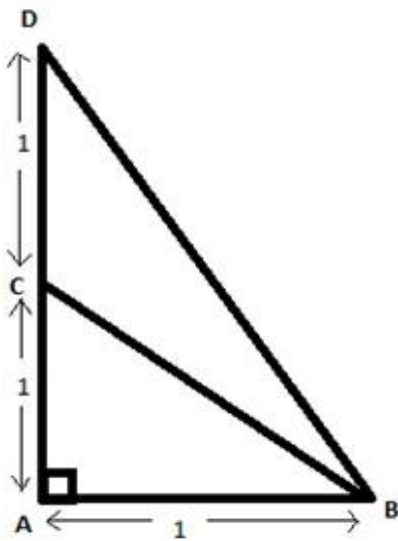What percentage of an hour is a minute?

A) 0.60 %
B) 1.67 %
C) 0.24 %
D) 2.5 %

Suppose X is 4% of 30 and Y is 2% of 70. Then

A) 4X=2Y
B) X is bigger than Y
C) 2X = 4Y
D) Y is bigger than X

The average of the numbers 5, -6, X and Y is 5. Which of the following has to be true?

A) X = 7, Y = 9

B) X and Y must lie in between -6 and 5

C) X+Y=21

D) Both X and Y must be positive

In the figure below, which of the following is true?

A) We do not have enough information to compare the areas of triangles ABC and CBD

B) The area of triangle ABC is larger than the area of triangle CBD

C) The area of triangle ABC is smaller than the area of triangle CBD

D) The area of triangle ABC equals the area of triangle CBD
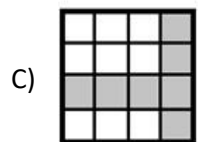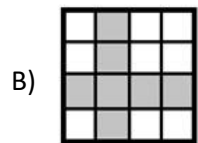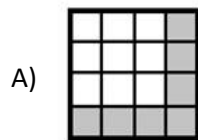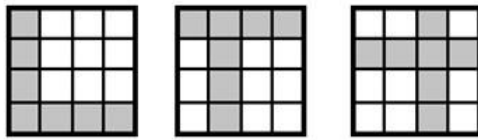
A goat needs 2.5 kg of grass per day. If you have 200 kg of grass, for how many days can you feed two goats?

A) 20 days

B) 40 days

C) 50 days

D) 100 days

P is a smaller number than Q. If you subtract 2 from Q, you get R. Which of the following is true?

A) P is bigger than R

B) R is bigger than P

C) Q is smaller than R

D) We cannot say which of P and R is bigger

Which shape comes next in the pattern below?

A)

B)

C)

D)
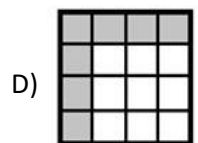
The graph below shows the probability of rain in Bangalore for the coming week.
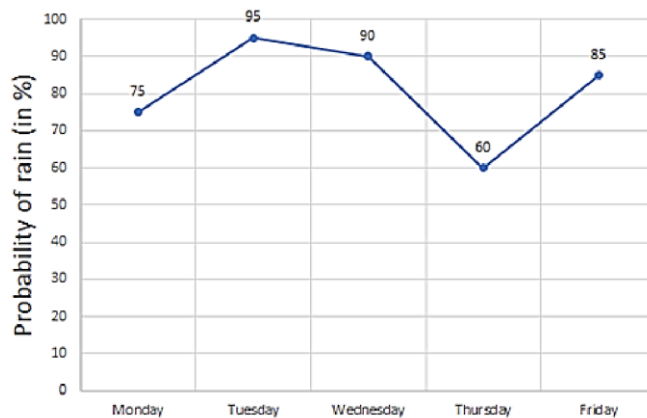
Which of the following is true?

A) If it does not rain on Tuesday, it will not rain on Thursday

B) If it does not rain on Tuesday, it has to rain on Wednesday

C) It will definitely rain some time during the week

D) It is possible that there will be no rain on both Thursday and Friday

A shopkeeper has 40 kg of white rice and 20 kg of red rice. 6% of the white rice and 3% of the red rice are spoilt. All together, what percentage of the rice is spoilt?

A) 5%

B) 4.5%

C) 9%

D) 3%

The following table shows the cost of travelling in a bus for various distances.

D = Distance (In Kms)	2	4	6	8	10	12	14
F = Bus Fare (in Rs.)	6	8	10	10	12	12	15

Which of the following is correct?

A) F = 2D

B) F ≥ 2D

C) F ≤ 2D

D) None of the above formulas is true.

An oval bicycle track is 1 km long and the total distance for the race is 9.5 km. Cyclist 1 is going at an average speed of 15 km/hr and Cyclist 2 is going at an average speed of 30 km/hr.

A) Cyclist 2 will never meet Cyclist 1

B) The two cyclists will meet exactly once

C) The two cyclists will meet nine times

D) The two cyclists will meet four times

Which of the following is correct?

A) 5/40 > 4/30 and 4/30 < 3/20

B) 5/40 > 4/30 > 3/20

C) 3/20 > 4/30 > 5/40

D) 5/40 = 4/30 = 3/20

If you have a cardboard circle of radius 3 cm, and cut out a square of side 1 cm, what is the area of the remaining shape?

A) 6π-4

B) $3\pi-1$

C) 9π - 1

D) 6π- 1

You have to choose a password consisting of three whole numbers between 0 and 9. You are allowed to repeat digits, but the order of the digits matters. You also cannot choose a password in which all three digits are the same (like 111 or 222) or one that begins with 0 (like 012). How many options do you have?

A) Over 10,000
B) Between 1000 and 9,999
C) Between 500 and 999
D) Fewer than 499

Suppose xy = 1 and y = 20. Then x equals

A) 0.05
B) 0.2
C) 0.02
D) 0.5

In a class with 50 students, 26 are taking biology and 25 are taking maths. Which of the following is true?

A) No more than one student is taking both biology and maths
B) At least one student is taking both biology and maths
C) Exactly one student is taking both biology and maths
D) This situation is not possible

A manufacturing company had 280 sales outlets across the country in the year 2019. It closed down 70 outlets by the year 2021. The percentage of outlets closed down during the years 2019-2021 is

a) 25%
b) 20%
c) 75%
d) 33.33%

Madikeri and Mysuru are 120 kms away. A car started from Mysuru at 10 AM towards Madikeri and travelled at a speed varying between 40kmph and 60kmph. If the car did not stop during the travel, then the car reached

a) before 11 AM
b) between 12 noon and 1 PM
c) between 11 AM and 12 noon
d) after 1 PM

Two sides of a rectangle are in the ratio 1:2 and their perimeter is 84 units. Then the smallest of the two sides measures

a) 12 units
b) 14 units
c) 18 units

A shopkeeper sells a mobile phone at a profit of 35%. The cost price of the mobile phone is Rs. 4000. What is the price at which the phone was sold?

a)   Rs 1400
b)   Rs 5000
c)   Rs 5400
d)   Rs 5350

A quiz has ten questions with 3 points awarded for each correct answer, 1 mark deducted for each wrong answer, and 0 for each question omitted. Madhu scored 22 points. How many questions did she omit?

a)   0
b)   1
c)   2
d)   3

The following table lists the year of birth and year of death of a few prime ministers of India.

Name	Year of birth	Year of death
Jawaharlal Nehru	1889	1964
Lal Bahadur Shastri	1904	1966
Indira Gandhi	1917	1984
Morarji Desai	1896	1995

Which of the following is the arrangement of names in the increasing (ascending) order of numbers of years they lived?

a)   Lal Bahadur Shastri, Indira Gandhi, Jawaharlal Nehru, Morarji Desai.
b)   Jawaharlal Nehru, Lal Bahadur Shastri, Indira Gandhi, Morarji Desai.
c)   Jawaharlal Nehru, Morarji Desai, Lal Bahadur Shastri, Indira Gandhi.
d)   Indira Gandhi, Lal Bahadur Shastri, Morarji Desai, Jawaharlal Nehru.

It takes 20 minutes to fully charge (100%) a mobile phone from 0%. Assume that the charging happens at a uniform rate. How much is the phone's battery charged (in percentage) if it requires 5 more minutes of charging to the full battery?

a)   20%
b)   25%
c)   75%
d)   80%

Suman buys 64 packets of pencils each having 25 pencils. He decides to sell these pencils as packets of 8 pencils each. Then how many packets will he need to prepare?

a) 100
b) 150
c) 250
d) 200

Meena borrowed a loan of Rs. 1,200 with simple interest for as many years as the rate of interest. If the interest she paid at the end of the loan period is Rs 432, then what was the rate of interest per annum?

a) 3.6%
b) 4.5%
c) 6%
d) 5%

The areas of the two squares are 100 square meters and 64 square meters respectively. What is the ratio of the sides of the larger square to the side of the smaller square?

a) 5:2
b) 4:3
c) 5:4
d) 1:2

A certain university has only first-year and second-year students. Every student lives either in hostels on campus or in houses just outside campus. All the students living in the campus hostels are first-year students. Every student who lives in the houses outside campus has a pet dog.

Based only on the above information, which of the following statements **must** be true?

a) Some students who live in the houses outside campus do not have pet dogs.
b) All second-year students have pet dogs.
c) No first-year student lives in the houses outside campus.
d) Some second-year students live in the hostels on campus.

In a certain language, "da" either means "yes" or "no", but you do not know which. "Ja" means the opposite of "da". You ask a speaker of the language the question, "Does 'da' mean 'no'?" Assuming she understood your question and answers truthfully, what will her response be?

a) Da
b) Ja
c) Neither "da" nor "ja"
d) Not enough information to determine the answer

In a certain city, 80% of the residents can speak Kannada, 50% can speak Hindi and 40% can speak English. 80% of the residents who can speak Hindi can also speak English.

Which of the following statements must be true?

a) Some residents of the city can speak all three languages.
b) Every resident of the city can speak all three languages.
c) More than 20% of the city's residents can speak neither Kannada nor English.
d) The majority of the city's residents can speak two or more languages.

Tashkent is the capital city of the country Uzbekistan. We will use a blue circle to stand for all the people who live in India, and a yellow circle to stand for all the people who live in Tashkent.

People who live in Tashkent

People who live in India
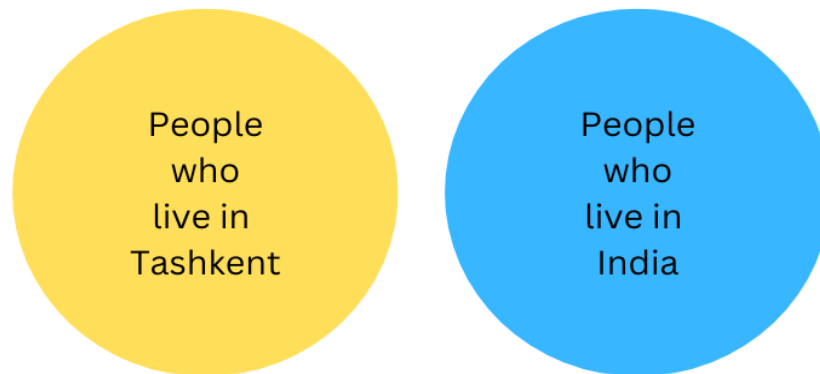
Which of the following pictures best shows the relationship between these two circles?

a)

b)

c)

d)
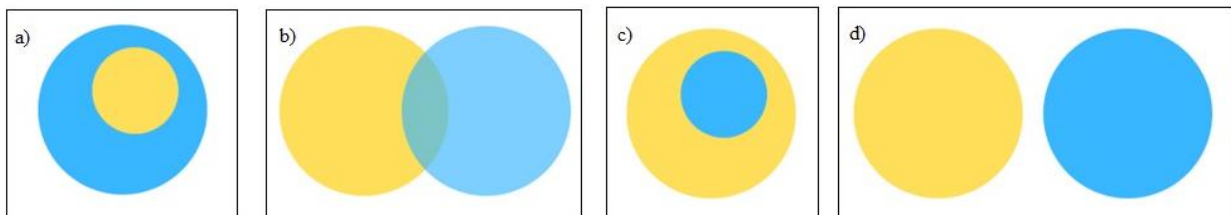
We will use a triangle to stand for all houses that have a balcony. We will use a square to stand for all houses with more than one bedroom. We will use a circle to stand for all houses that have a garden.

Houses with a balcony

Houses with more than one bedroom
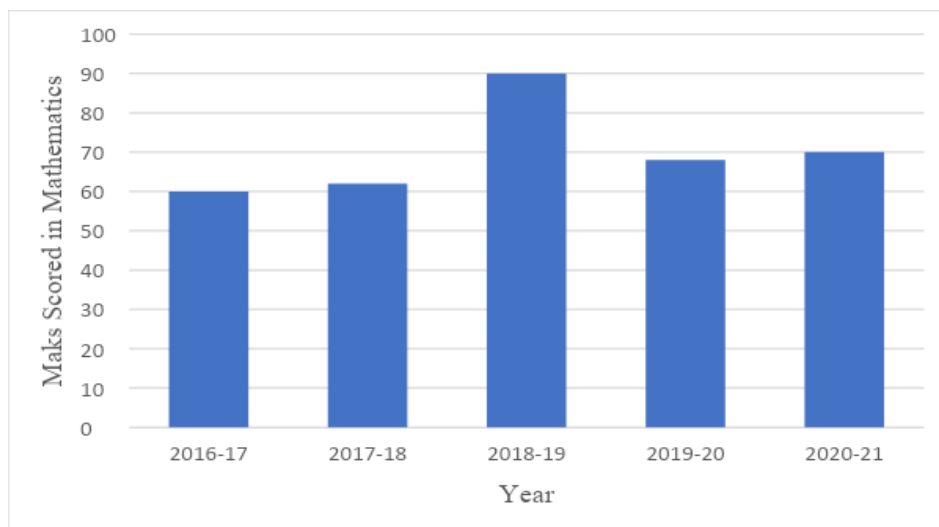
Houses with a garden

Look at the diagram below, in which different regions have been labelled with different letters.
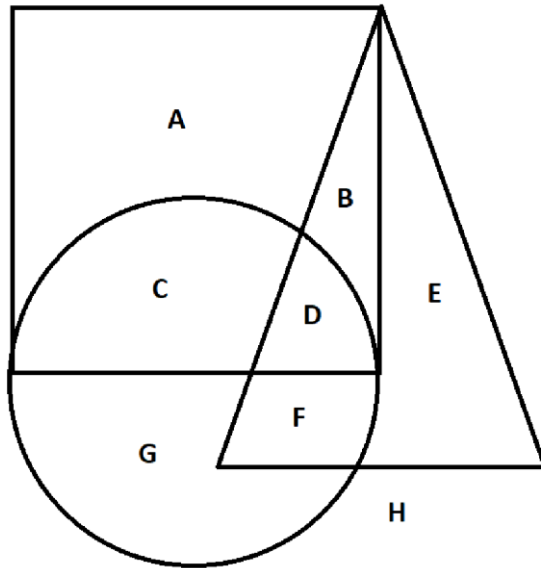
Saira lives in a house with three bedrooms, no garden and no balcony. In which region of the diagram will we find Saira's house?

a) H
b) E
c) A
d) D

The following graph shows the marks scored by a student over five years in Mathematics.
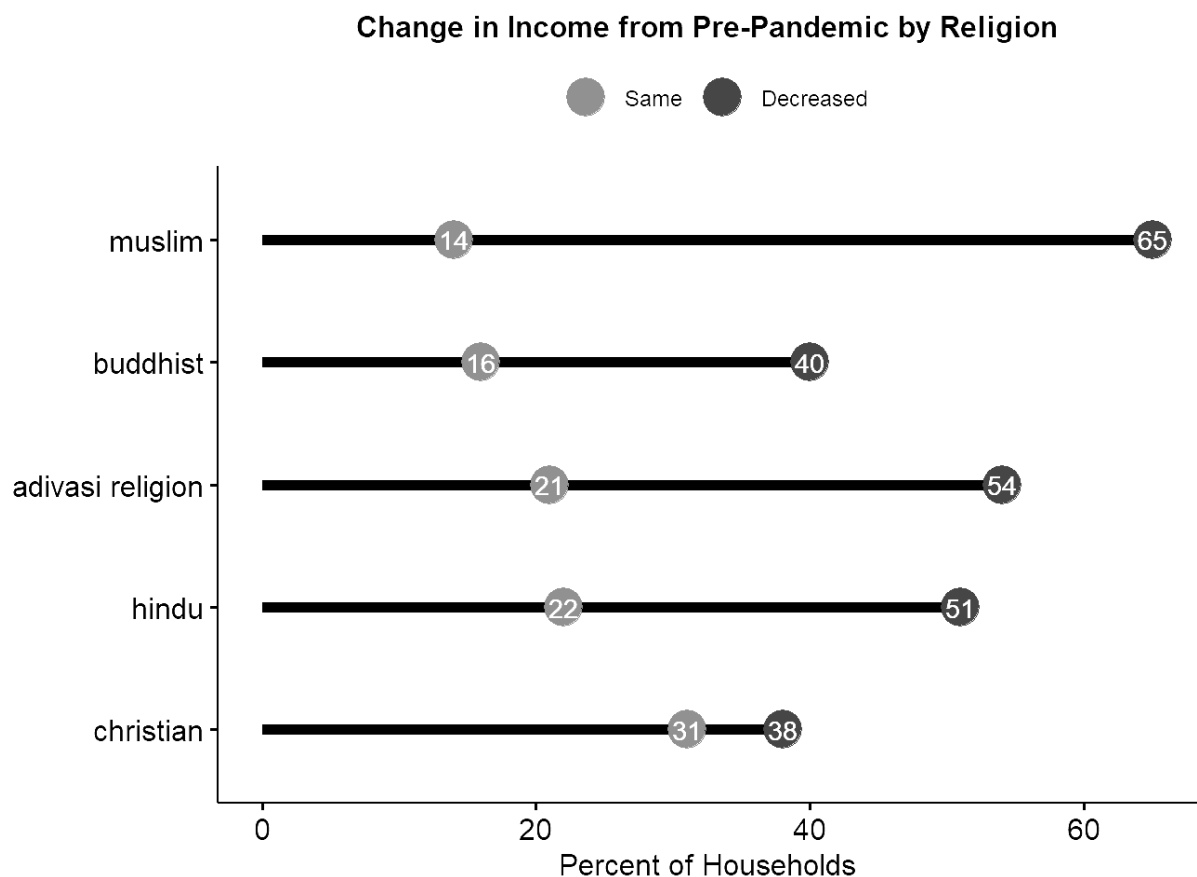

In which year does the student show maximum improvement compared to the previous year?

a) 2016-17
b) 2017-18
c) 2018-19
d) 2019-20

If the student was in Class 5 (or Standard 5) in 2016-17, and did not fail in any year, then what did the student score in Maths in Class 8?

a) 70
b) 68
c) 62
d) 60

The graph below shows how the income of households belonging to different religions changed after the pandemic compared to the pre-pandemic year. There were 3 possibilities – household income in the year after the pandemic either increased, or decreased, or remained the same compared to the pre-pandemic year. The graph only shows the percentage of households of each religion whose income either decreased or remained the same. What is not shown in the graph is the percentage of households whose incomes increased in the year after the pandemic compared to the pre-pandemic year. The total percentage of households is 100 for each religious category. The vertical axis shows the religion of the households and the horizontal axis shows the percentage of households.

Change in Income from Pre-Pandemic by Religion

Same   Decreased

Religion	Same	Decreased
muslim	14	65
buddhist	16	40
adivasi religion	21	54
hindu	22	51
christian	31	38

Percent of Households
0   20   40   60

Which religious group of households had the highest percentage of respondents saying that their incomes had reduced post-pandemic compared to pre-pandemic?

a) Muslim
b) Hindu
c) Adivasi religion
d) Buddhist

Among all the depicted religious categories, which religious category had the highest percentage of households saying that their incomes increased in the year after the pandemic compared to the pre-pandemic year.

a) Muslims
b) Hindus
c) Buddhists
d) Christians

The total number of households surveyed for this data was 6625. If 80% of the households were Hindu, what is the number of Hindu households whose income remained the same?

a) 2703
b) 1431
c) 5300
d) 1166