

The background features a large, stylized number '6' in the center, surrounded by various mathematical symbols and numbers arranged in a circular pattern. The symbols include pi, infinity, square roots, and various numbers. The overall design is modern and educational.

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THIRD EDITION

A Comprehensive Mathematics
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Model Assessment
Papers

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Model Paper I

Mid-Year Examination

Mathematics

Class VI

Name: _____

Section: _____

Date: _____

Time: 2 Hours

Maximum Marks: 100

Read these instructions first:

- Write your name, section, and date clearly in the space provided.
- Answer all questions in Section A, Section B, and Section C.
- Show all your working along with the answer in the space provided.
- Omission of essential working will result in loss of marks.
- At the end of the examination, recheck your work before handing it over.
- The number of marks is given in brackets [] at the end of each question.
- This document consists of 9 printed pages.

_____ For Examiner's Use Only _____

Section	A	B	C					Total
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	
Max. Marks	20	30	10	10	10	10	10	100
Marks Obtained								
Percentage								

Invigilated by: _____ Marked by: _____ Checked by: _____

Section A

Attempt **all** questions

[20 Marks]

Q1. Each question has four options. Encircle the correct answer.

- I.** Which of the following is a set of natural numbers up to 10, written in tabular notation?
A $N = \text{set of natural numbers less than } 10$
B $N = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$
C $N = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$
D $N = \{x : x = 10\}$
- II.** The power set of an empty set has
A one subset
B two subsets
C three subsets
D zero subsets
- III.** The place value of 6 in 8642 is
A 6
B 60
C 600
D 6000
- IV.** 290,731 expressed in expanded notation is
A $290000 + 700 + 31$
B $200000 + 90000 + 0000 + 700 + 30 + 1$
C $20000 + 9000 + 700 + 30 + 1$
D $20000 + 900 + 70 + 3 + 1$
- V.** Which of the following statements is true?
A 99 is a successor of 100
B Every whole number is a natural number
C 1000 precedes 999
D Every natural number is a whole number
- VI.** Which of the following is false?
A. $3 \times (4 \times 5) = (3 \times 4) \times 5$
B. $0 \times 100 = 0$
C $45 + 5 \div 5 = 10$
D $0 \div 12 = 0$
- VII.** 2, 3, 6, and 9 are factors of
A 18
B 32
C 42
D 63
- VIII.** Which of the following numbers is a divisor of 7563?
A 9
B 3
C 5
D 2
- IX.** LCM of 8 and 32 is
A 2
B 4
C 8
D 32
- X.** Which is greater - 17 or - 7?
A - 17
B They are equal
C - 7
D None of the above
- XI.** Evaluate: $(-2) \times 2 - (-2)$
A - 2
B 2
C - 6
D 6
- XII.** Evaluate: $-26 \div (-13) \times (-2)$
A 4
B - 4
C - 1
D 1
- XIII.** What are the next two terms of the sequence: - 24, - 16, - 8, _____, _____?
A 8, 0
B - 4, 4
C 0, 8
D 4, 4
- XIV.** Which of the following is the simplest form of 50 cm to 1 m?
A 50 : 1
B 2 : 1
C 1 : 2
D 1 : 50

- XV.** The ratio of two quantities is 3 : 4. If one quantity is 6, then what is the second quantity?
- A** 7
B $\frac{3}{4}$
C $\frac{4}{3}$
D 8
- XVI.** Which of the following ratios is less than the other?
- A** 8 : 16 and 1 : 2
B 2 : 3 and 5 : 6
C 5 : 4 and 10 : 8
D None of the above
- XVII.** $\frac{4}{5}$ expressed as a percentage is
- A** 80%
B 100%
C 20%
D 25%

- XVIII.** 25% of 800 cm is
- A** 100 cm
B 400 cm
C 200 cm
D 300 cm
- XIX.** Which of the following is a false statement?
- A** Loss, if $CP > SP$
B Profit, if $SP > CP$
C No loss, no profit, if $CP = SP$
D Profit, if $SP = CP - \text{Profit}$
- XX.** If 75% of students in a class of 40 are boys, how many of them are girls?
- A** 20
B 25
C 30
D 10

[Total: /20]

Section B

Attempt **all** questions

[30 Marks]

Q2.

- a) Write down the members of:
- i) Set A = odd numbers between 5 and 15 [/1]
 Set A = _____
- ii) Set B = days of the week [/1]
 Set B = _____
- b) List all the subsets of Set A = {2, 3} [/2]
 Subsets of A = _____
- c) Apply a property to evaluate: $143 \times 6 + 4 \times 143$ [/2]

 Property: _____
- d) Apply the rule of divisibility to check if 53812 is divisible by 11. [/2]

- e) Find the HCF of 18, 30, 12, and 42 by prime factorisation. [/2]

- f) Find the LCM of 10, 15, and 30. [/2]

- g) The product of two numbers is 54. If their HCF is 3, find their LCM. [/3]

h) Evaluate: $(-125) - (-83) + (-20)$

[/3]

i) Evaluate: $\frac{(-4) \times (-6) \times (-8)}{(-2) \times (-4)}$

[/3]

j) Divide Rs 800 in the ratio 5 : 3.

[/3]

k) Find the fourth proportional to 4, 7, and 8.

[/3]

l) In a sale, a Bookshop reduced all their prices by 20%. Calculate the cost of a book whose original price was Rs 500.

[/3]

Sale 20%



[Total: /30]

Section C

Attempt **all** questions

[50 Marks]

Q3.

a) Set $N = \{1, 2, 3, 4, \dots, 20\}$. Draw a Venn diagram representing:

i) Set $P = \{x : x \text{ is a prime number}\}$

[/2]

ii) Set $D = \{x : x \text{ is divisible by } 3\}$

[/2]

b) Simplify:

i) $[-(-10) - (-5)] - [12 + (-7)]$

[/3]

ii) $\frac{(-4) \times (2)^3 \times (-3)^2}{(-12) \times (-3)}$

[/3]

[Total: /10]

=====

Q4.

a) Use numbers 8, 10, and 12 to verify associative property of multiplication.

[/4]

- b) Verify the distributive property of multiplication over addition using numbers 7, 8, and 9. [/4]

- c) Two lengths are in the ratio 5 : 4. If the larger length is 150 m, what is the smaller length? [/2]

[Total: /10]

=====

Q5.

- a) Find the HCF of 72, 96, and 252 by long division method. [/5]

- b) Find the LCM of 36, 63, 81, and 108 by long division method. [/5]

[Total: /10]

Q6.

a) There are 1920 workers in a factory, out of whom 1056 are men. Find the ratio of:

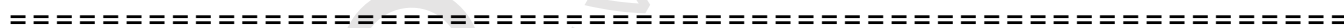
i) the number of men to the number of women [/2]

ii) the number of women to the number of workers [/3]

b) A car can cover a distance of 225 km on 15 litres of petrol. How far will it go on 32 litres?

[/5]

[Total: /10]



Q7.

a) Calculate the simple interest earned on Rs 16000 at 5% for 3 years.

[/3]

- b) A retailer bought a bicycle for Rs 2500 and sold it for Rs 3000. Find his percentage profit.
[/3]

- c) When a TV is sold for Rs 3360 the shopkeeper makes a profit of 40%. Find the cost price.
[/4]

[Total: /10]

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Model Paper 2

Mid-Year Examination

Mathematics

Class VI

Name: _____

Section: _____

Date: _____

Time: 2 Hours

Maximum Marks: 100

Read these instructions first:

- Write your name, section, and date clearly in the space provided.
- Answer all questions in Section A, Section B, and Section C.
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Section	A	B	C					Total
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	
Max. Marks	20	30	10	10	10	10	10	100
Marks Obtained								
Percentage								

Invigilated by: _____ Marked by: _____ Checked by: _____

Section A

Attempt **all** questions

[20 Marks]

Q1. Each question has four options. Encircle the correct answer.

- I.** Which of the following given numbers represents the expanded notation: $60000 + 7000 + 900 + 40 + 8$?
- A 84976
B 67948
C 84796
D 69748
- II.** 94310285 written in International number system is
- A 9,43,10,285
B 94,31,02,85
C 94,310,285
D 9,431,028
- III.** 8, 0, 10, -2 written in ascending order
- A -2, 0, 8, 10
B 0, 8, 10, -2
C 10, 8, 0, -2
D -2, 8, 10, 0
- IV.** Which is the smallest amongst the given numbers?
- A -5
B 0
C -7
D 2
- V.** Which symbol will link $\{3, 4, 6\}$ $\{6, 3, 4\}$ correctly?
- A \neq
B \subset
C \supset
D $=$
- VI.** The equivalent ratio of 24 : 32 is
- A 4 : 3
B 3 : 4
C 2 : 3
D 32 : 24
- VII.** Is 136 is divisible by
- A 2 and 4
B 3 and 9
C 2 and 6
D 3 and 6
- VIII.** Which of the given numbers is neither a prime number nor a composite number?
- A 4
B 2
C 0
D 1
- IX.** The ratio of 25 minutes to 1 hour, when expressed in its simplest form:
- A 25 : 1
B 5 : 12
C 12 : 5
D 1 : 25
- X.** If $A = \{3, 6, 9, 12, 15\}$, $B = \{3, 6, 7, 12\}$, and $C = \{3, 12\}$, state which of the following two statements are correct?
- A $B \subset A$
B $A \subset B$
C $C \subset A$
D $C \subset B$
- XI.** 3.75 when expressed as a percentage is
- A 375%
B 37.50%
C 0.375%
D 0.0375%
- XII.** If $4 \times 7 = 28 = 7 \times 4$, then identify the property
- A Associative property of addition
B Associative property of multiplication
C Commutative property of multiplication
D Distributive property
- XIII.** 68% expressed in a fraction in its simplest form is
- A $\frac{68}{100}$
B $\frac{17}{25}$
C $\frac{34}{50}$
D 0.68

- XIV.** 10 Lacs 1 Million. Use the correct symbol to make it a true statement.
A <
B =
C ≠
D >
- XV.** HCF of 2, 4, and 3 is
A 4
B 2
C 12
D 1
- XVI.** Which are the two possible integers less than -4?
A -5 and -6
B -3 and -2
C 3 and 2
D 1 and 2
- XVII.** Evaluate: $[(-3) + (-3)] \div 6$
A 0
B 1
C -1
D -6
- XVIII.** Ratio 1 = 2 : 4 : 6
 Ratio 2 = 4 : 16 : 12
 Ratio 3 = : 12 : 18
 Which of the following statements is correct?
A Ratio 1 = Ratio 2
B Ratio 1 = Ratio 3
C Ratio 1 = Ratio 2 = Ratio 3
D Ratio 2 = Ratio 3
- XIX.** A shopkeeper bought an item for Rs 75 and sold it for Rs 60. His loss as a percentage of the cost price is
A 20%
B 15%
C 60%
D 75%
- XX.** During a sale, a shop reduced the price of all dresses by 10%. The sale price of a dress originally priced at Rs 400 now is
A Rs 350
B Rs 360
C Rs 40
D Rs 370

[Total: /20]

Section B

Attempt **all** questions

[30 Marks]

Q2.

a) Fill in the blanks:

i) $6 \times (8 + 2) = (6 \times \underline{\quad}) + (\underline{\quad} \times 2) = \underline{\quad}$ [/1]

ii) $\underline{\quad} \times (7 - 5) = (\underline{\quad} \times 7) + (9 \times 5) = \underline{\quad}$ [/1]

b) Which of the given numbers are divisible by 2 and 3 both? Use rules of divisibility. [/2]

57946 615432 18039 338190

c) i) Set B = {2, 3, 5, 7, 11}. Rewrite the set in descriptive notation. [/1]

ii) Set A = {x : x is a number divisible by 4 and less than 25}. Rewrite the set in tabular form. [/1]

d) Find the HCF of $2^2 \times 3^3$, $2^2 \times 3^2 \times 5$, $3^2 \times 5$. [/2]

e) Salman and Raza share the profit in a business in the ratio 3 : 5. How much will Salman get from the profit of Rs 6400? [/2]

f) Find x, if $x : 15 = 25 : 75$. [/2]

g)

i) Write any finite set. [/1]

ii) Write a set which is equal to Set M = {5, 6, 7}. [/1]

iii) Write a set which is equivalent to Set N = {a, e, i, o, u}. [/1]

h) Find the LCM of 12, 16, and 20 by prime factorisation. [/3]

i) The HCF and LCM of two numbers are 6 and 36 respectively. If one of the numbers is 18, find the other number. [/3]

j) A television set was bought for Rs 16000 and sold for Rs 16640. Find the profit per cent. [/3]

k) Evaluate: $[(-8) + (-25)] + [7 - 15]$ [/3]

l) Evaluate: $\frac{-15 + [(-18) \div 3]}{6 + [45 \div (-5)]}$ [/3]

[Total: /30]

Section C

Attempt **all** questions

[50 Marks]

Q3.

- a) Find the difference between the largest 5-digit number and 10 more than the smallest 4-digit number. [/4]

- b) Using the place values of the two 8's in 5,879,853 find:
- i) their sum [/2]
- ii) their difference [/2]

- c) Express the ratio 5 kg : 625 g in the simplest form. [/2]

[Total: /10]

=====

Q4.

- a) Complete the following:
- i) If -4 degrees represents 4 degrees below the freezing point, then 4 degrees above the freezing point is represented by: [/1]
-
- ii) If $+100$ dollars means a gain of \$100, then a loss of \$100 is: [/1]
-
- iii) If 15 minutes before midnight is represented by -15 minutes, then 10 minutes after midnight is represented by: [/1]
-

b) Simplify: $-216 \div 9 + 64 \times (-4)$

[/3]

c) Set A = {4, 5, 6}. Find all the subsets of Set A.

[/4]

[Total: /10]

=====

Q5.

a) Three bells toll at intervals of 12 sec, 15 sec, and 18 sec. If they toll together at 10 a.m., then how long will it be before they sound together again? [/5]

b) 1500 people went to watch a movie. 800 of them left the hall after the interval. Calculate:
i) Ratio of total number of people to the ones who left early. [/2]

ii) Ratio of people who left after the interval to the ones who stayed till the end. [/3]

[Total: /10]

Q6.

- a) What is the maximum length of equal parts of a wire that can be cut from two lengths of 72 cm and 90 cm with a piece of 2 cm remaining of each part? [/5]

- b) 9 men can complete a job in 15 days. If 4 men leave, how long will the remaining men take to complete the same job if they work at the same rate? [/5]

[Total: /10]

=====

Q7.

- a) A man bought a motorcycle for Rs 10350 and sold it for Rs 8280. Find his loss per cent. [/3]

- b) If the simple interest on Rs 500 at 5% per annum is Rs 100, find the time. [/3]

c) A book which costs Rs 150 was sold at a loss of 5%. Find its selling price.

[/4]

[Total: /10]

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Model Paper I

Annual Examination

Mathematics

Class VI

Name: _____

Section: _____

Date: _____

Time: 2 Hours

Maximum Marks: 100

Read these instructions first:

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- This document consists of 10 printed pages.

_____ **For Examiner's Use Only** _____

Section	A	B	C					Total
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	
Max. Marks	20	30	10	10	10	10	10	100
Marks Obtained								
Percentage								

Invigilated by: _____ Marked by: _____ Checked by: _____

Section A

Attempt **all** questions

[20 Marks]

Q1. Each question has four options. Encircle the correct answer.

I. Set of even numbers which can be divided exactly by 3:

- A {3, 6, 9, 12}
- B {6, 12, 18, 24}
- C {9, 15, 21, 27}
- D {3, 6, 12, 24}

II. If $T = \{a, b, c\}$, then which of the following statements is correct?

- A $a \in T$
- B $a \subset T$
- C $b \supset T$
- D $b \subseteq T$

III. $(12 \times 7) + (8 \times 7)$ is the same as

- A $(12 + 8) \times 7$
- B 84×56
- C $(12 \times 8) + 7$
- D $12 \times 7 \times 8$

IV. Value of 2 in the number 2,79,031 is

- A millions
- B lacs
- C ten thousand
- D crore

V. Which of the following is not a prime number?

- A 67
- B 97
- C 91
- D 53

VI. 4768 is exactly divisible by

- A 9
- B 6
- C 4
- D 3

VII. When 20 is subtracted from the product of (-15) and (-4) , the result is

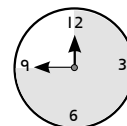
- A -40
- B -39
- C 40
- D 80

VIII. Which of the following is the simplest form of $36 : 54$?

- A 4 : 6
- B 2 : 3
- C 18 : 27
- D 6 : 4

IX. 45 min expressed as a percentage of 1 hour

- A 75%
- B 85%
- C 65%
- D 30%



X. Reduce a price of Rs 2000 by 20%.

- A Rs 2400
- B Rs 1600
- C Rs 1980
- D Rs 2020

XI. Which of the following is not equal to $\frac{1}{2}xy$?

- A $\frac{xy}{2}$
- B $x \times \frac{y}{2}$
- C $\frac{1}{2x} \times y$
- D $\frac{xy}{2}$

XII. Evaluate: $y = 2x + 3$, if $x = -3$

- A 0
- B 3
- C -3
- D 6

- XIII.** Which of the following statements is true?
- A Points on a line can be counted
 - B Points on a line can not be counted
 - C A line has two end points
 - D A line can be represented by small letters

- XIV.** Which of the following is an acute angle?
- A 89°
 - B 90°
 - C 91°
 - D 92°

- XV.** When two angles add up to 90° they are called
- A right angles
 - B complementary angles
 - C supplementary angles
 - D adjacent angles

- XVI.** Into how many equal parts does a bisector divide a line?
- A 1
 - B 2
 - C 3
 - D 4

- XVII.** Interior angles of a triangle add up to
- A 90°
 - B 120°
 - C 150°
 - D 180°

- XVIII.** If each side of a square is 5 cm then its area is
- A 10 cm^2
 - B 25 cm^2
 - C 25 cm
 - D 20 cm

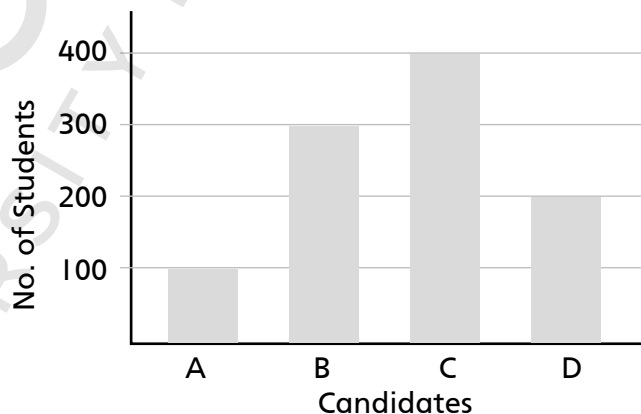
- XIX.** If the volume of a cube is 729 cm^3 , then the length of each side is

- A 121.5 cm
- B 9 cm^2
- C 243 cm
- D 9 cm



- XX.** The result of elections held in a school for Student's Council is represented by the given bar graph. What is the difference between the maximum and minimum number of votes?

Result of Students Council Election



- A 400
- B 300
- C 200
- D 100

[Total: /20]

Section B

Attempt **all** questions

[30 Marks]

Q2.

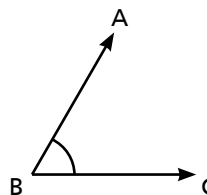
- a) Find x , if $x : 10 = 3 : 5$. [/2]

- b) Amina, Fauzia, and Sara shared 90 pencils in the ratio 3 : 2 : 1. How many pencils did Fauzia get? [/2]

- c) Measure the angle and name it according to its size. [/2]

$\angle ABC =$ _____

$\angle ABC$ is _____



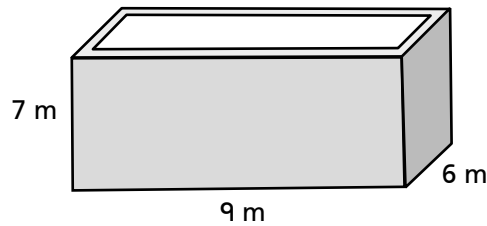
- d) How many degrees are there in $2\frac{1}{2}$ right angles? [/2]

- e) Find the area of a square with each side of 3 m 50 cm. [/2]



3 m 50 cm

- f) A rectangular water tank has dimensions 9 m, 7 m, and 6 m respectively. Find the volume of the water tank. [/2]



- g) $\mathbb{U} = \{3, 6, 9, 12, 15, 18, 21, 24, 27, 30\}$. Draw a Venn diagram to represent: [/3]
 (i) Set P = $\{x : x \text{ is a prime number}\}$
 (ii) Set A = $\{x : x \text{ is exactly divisible by } 4\}$

- h) Use numbers 4, 5, and 6 to verify the associative property of multiplication. [/3]

- i) In a certain school there are 750 students. In one week 510 students issued books from the library. What percentage of students did not issue any book during that week? [/3]



j) Simplify: $2x - 8y + z + 3x - y - z$

[/3]

k) Solve: $8(x + 1) = x + 15$

[/3]

l) The interior angles of a triangle are in the ratio of 1 : 2 : 3. Find the largest angle. [/3]

[Total: /30]

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Section C

Attempt **all** questions

[50 Marks]

Q3.

- a) Find the HCF of 72, 252, and 600 by expressing each number as powers of their prime factors. Give your answer as a product of prime factors. [/5]

- b) The lights of three lighthouses flash together after 126 sec, 154 sec, and 198 sec respectively. After how many minutes will they next flash together? [/5]



[Total: /10]

Q4.

- a) Raza and Ayesha simplified $276 - 132 - (-310) - 494$ and got different answers. Raza's answer is -328 and Ayesha's answer is -40 . Simplify yourself and check who has calculated correctly. [/3]

- b) Simplify: $180 \div (-30) \times 100 + (-400)$ [/3]

c) Simplify: $-21 - 4 \div [(-15) + 10] \times 100 - 375$

[/4]

[Total: /10]

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Q5.

a) If $a = 2$, $b = -3$, $c = -4$, evaluate: $\frac{a^3b^2c}{3b}$.

[/2]

b) An exterior angle of a triangle is 135° and one of the opposite interior angles is 50° . Find the other angle.

[/3]

c) Multiply a number by 3, subtract 6, and then multiply the result by 2. The answer is 18. Find the number.

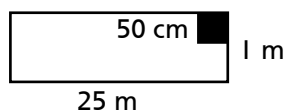
[/5]

[Total: /10]

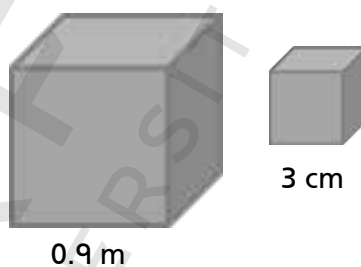
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Q6.

- a) How many square tiles of side 50 cm are required to cover a pavement 25 m long and 1 m wide? [/5]



- b) The length of each side of a solid metal block is 0.9 m. The block is melted to make small cubes with an edge of 3 cm. How many small cubes can be made from the metal block? [/5]

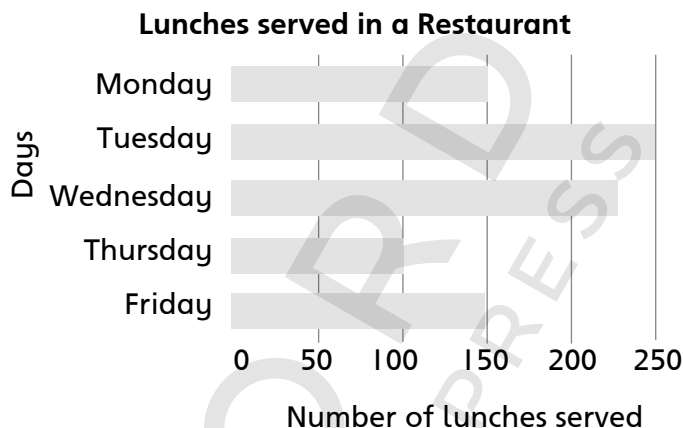


[Total: /10]

Q7.

- a) If two lines make an angle of $\frac{5}{6}$ right angles, then find the reflex angle between them. [/2]

- b) Number of lunches served at a restaurant in a week:



- i) On which day were the most lunches served? [/1]

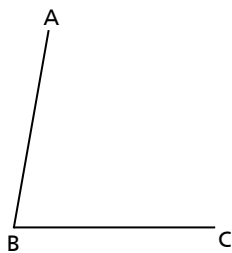
- ii) How many lunches were served in a week? [/2]

- iii) How many more lunches were served on a Wednesday than Friday? [/1]

- iv) On which days were more than 200 lunches served? [/1]

- c) i) Draw an angle of 120° using a protractor. [/1]

- ii) Bisect the given angle ABC using a pair of compasses. [/2]



[Total: /10]

Model Paper 2

Annual Examination

Mathematics

Class VI

Name: _____

Section: _____

Date: _____

Time: 2 Hours

Maximum Marks: 100

Read these instructions first:

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- Answer all questions in Section A, Section B, and Section C.
- Show all your working along with the answer in the space provided.
- Omission of essential working will result in loss of marks.
- At the end of the examination, recheck your work before handing it over.
- The number of marks is given in brackets [] at the end of each question.
- This document consists of 11 printed pages.

_____ For Examiner's Use Only _____

Section	A	B	C				Total
	Q1	Q2	Q3	Q4	Q5	Q6	Q7
Max. Marks	20	30	10	10	10	10	10
Marks Obtained							
Percentage							


Invigilated by: _____ Marked by: _____ Checked by: _____

Section A

Attempt **all** questions

[20 Marks]

Q1. Each question has four options. Encircle the correct answer.

- I.** Set $R = \{3, 5, 7, 9\}$ and $Q = \{3, 5\}$. Which of the following statements is false?
A $7 \in R$
B $Q \subset R$
C $7 \notin Q$
D $R \subset Q$
- II.** If $A = \{2, 4, 6, 8, 10\}$, then which of the following statements is correct?
A $4 \in A$
B $8 \notin A$
C $\{3, 4\} \subset A$
D $A \subset \{4, 6\}$
- III.** The easiest way to calculate $(14 \times 5) + (18 \times 14)$
A $5 + (14 \times 18 \times 14)$
B $14 \times (5 + 18)$
C $(14 + 5) \times 18$
D $(18 \times 5) + 14$
- IV.** Which of the following satisfy the statement 10 Billion > 10 Arab?
A False
B True
C 10 Billion < 10 Arab
D 1 Billion = 1 Crore
- V.** Which of the following statements is false?
A Prime numbers have exactly two distinct factors
B One is the only factor of a prime number
C One is the factor of every prime number
D None of the above
- VI.** 2, 3, and 5 are factors of
A 30
B 15
C 10
D 6
- VII.** What is the value of $(-7) - (-9)$?
A 2
B 16
C -2
D -6
- VIII.** If Rs 120 is divided in the ratio of 2 : 3, then the smaller share is
A Rs 40
B Rs 72
C Rs 60
D Rs 48
- IX.** If the price of a book is decreased from Rs 300 to Rs 240, what is the percentage decrease?
A 25%
B 60%
C 20%
D 15%
- 
- X.** 100 years ago, a handmade copper vase was worth Rs 5000. As a rare antique piece, it is now worth Rs 550000. The new price is
A 11 times the original price
B 100 times the original price
C 110 times the original price
D 110% of the original price
- XI.** Fauzia has 12 balls in a basket. There are x red balls and 5 green balls. Which of the following statements is correct?
A $x - 5 = 12$
B $x + 5 = 12$
C $12 + x = 5$
D $5x = 12$
- XII.** If $x = -4$, then the value of $3x^2$ is
A 48
B -48
C 24
D -24

- XIII.** How many end points does a ray have?
A 0
B 1
C 2
D unlimited

- XIV.** Which of the following is not an obtuse angle?
A 91°
B 100°
C 180°
D 120°

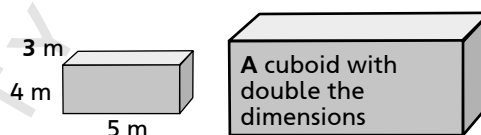
- XV.** When two angles add up to 180° , they are called
A obtuse angles
B supplementary angles
C complementary angles
D adjacent angles

- XVI.** Which of the following angles can be drawn from a pair of set squares?
A 30°
B 45°
C 60°
D all of the above

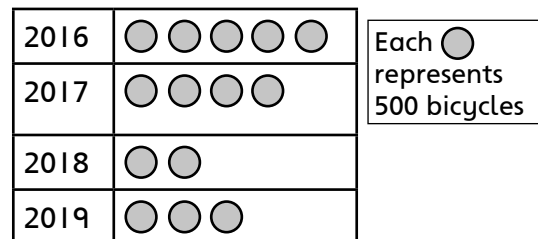
- XVII.** Exterior angle of a triangle is
A equal to 180°
B equal to 90°
C equal to sum of interior angles
D equal to sum of opposite two interior angles

- XVIII.** If the perimeter of a square is 24 cm, then its area is
A 36 cm
B 24 cm^2
C 12 cm^2
D 36 cm^2

- XIX.** The dimensions of a cuboid are 5 m, 4 m, and 3 m respectively. If the dimensions are doubled, what will be the new volume?
A 8 times the original
B 2 times the original
C 6 times the original
D 4 times the original



- XX.** The pictograph below shows the number of bicycles manufactured in a factory each year from 2016 to 2019.



Which of the following statements is true?

- A** Maximum number of bicycles were manufactured in year 2017
B 2000 bicycles were manufactured in year 2017
C No production in year 2018
D More bicycles were manufactured in year 2019 as compared to year 2016

[Total: /20]

Section B

Attempt **all** questions

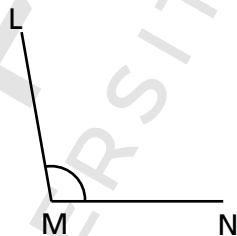
[30 Marks]

Q2.

- a) The ratio of boys and girls in a school is 7 : 5. If there are 300 students, find the number of girls the school. [/2]

- b) Mrs. Ahmed earned Rs 6000 in the month of January and spent Rs 4500 in the same month. Find the ratio of her savings to her earnings expressed in its lowest term. [/2]

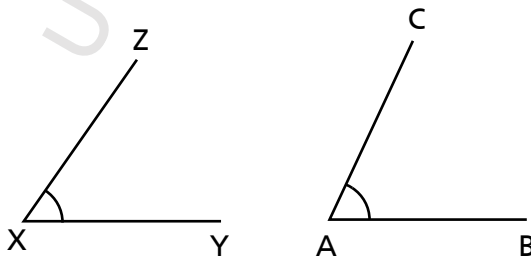
- c) Measure the angle and name it according to its size. [/2]



$\angle LMN =$ _____

$\angle LMN$ is _____

- d) Fill in the box with appropriate symbol $>$, $<$, $=$. [/2]



$m\angle CAB$ $m\angle ZXY$

- e) Find the length of a garden that has an area of 1350 m^2 and breadth of 30 m. [/2]

- f) The volume of a cube is 216 cm^3 . Is the volume of this cube more or less than the volume of a cuboid of dimensions 8 cm, 6 cm, and 4 cm? [/2]

- g) Write any six subsets of Set $A = \{x, y, z\}$. [/3]

- h) Use numbers 27, 33, and 50 to verify the associative property of addition. [/3]

- i) Raza saved Rs 650. He spent 25% to buy story books.

- i) How much money did he spend? [/2]

- ii) How much money does he still have? [/1]

- j) From $12a + 3 - 2b$ subtract $6 - 8a + 3b$. [/3]

k) Solve $2(x - 7) = 5(x - 3)$

[/3]

l) One of the base angles of an isosceles triangle is 56° . Find the vertical angle.

[/3]

[Total: /30]

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Section C

Attempt **all** questions

[50 Marks]

Q3.

- a) Find the LCM of 16, 24, 30, and 36, by expressing each number as powers of their prime factors. Give your answer as a product of prime factors. [/5]

- b) Find the greatest number which divides 996 and 246 leaving a remainder 6. [/5]

[Total: /10]

=====

Q4.

- a) Use the symbol $<$, $>$, or $=$ to make the statements true.
- i) $179 - 279$ 25×4 [/1]

ii) $-80 - 80 \square - 160$

[/1]

b) Simplify the following:

i) $[(-3) + (-10)] + [18 + (-25)]$

[/3]

ii) $[-79 + 6 \times (81 \div 9)] + 65 \div 13 - 11$

[/5]

[Total: /10]

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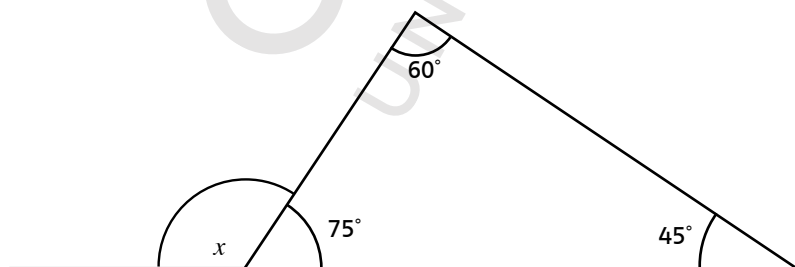
Q5.

a) Evaluate: $\frac{3x^2yz}{x+y+z}$, if $x = -1, y = 5, z = 2$.

[/2]

b) Find the value of x .

[/3]



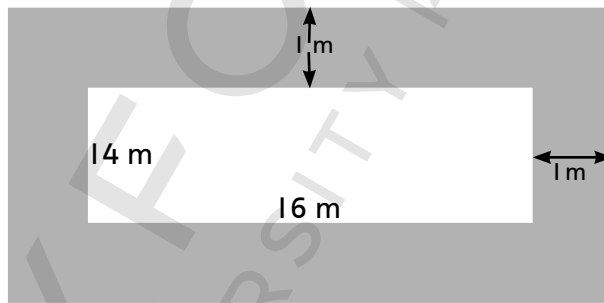
c) The sum of three consecutive numbers is 186. Find the numbers.

[/5]

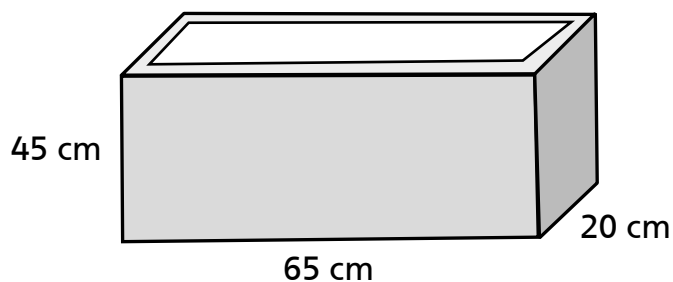
[Total: /10]

Q6.

a) The length and breadth of a piece of land is 16 m and 14 m respectively. A path of uniform width of 1 m runs around it on the outside. Find the area of the path. [/6]



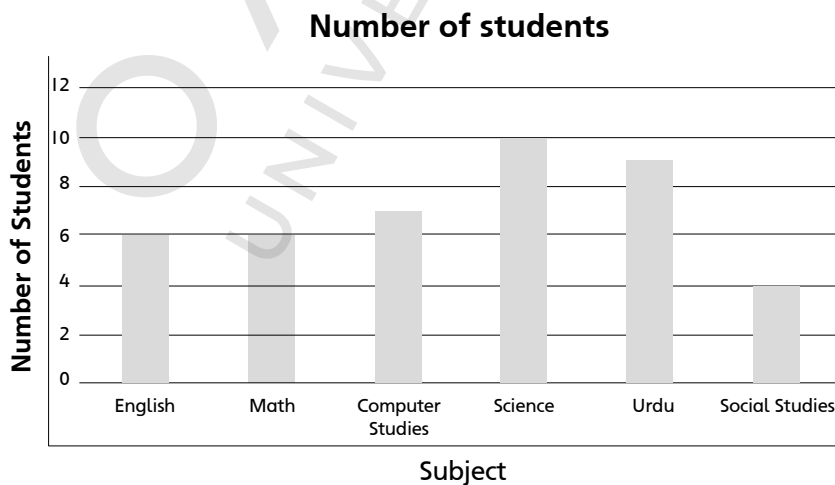
- b) A water tank has the dimensions 65 cm by 45 cm by 20 cm. How many litres of water are required to fill it completely? [/4]



[Total: /10]

Q7.

- a) If one of the angles is 52° , then find its complementary angle. [/2]
-
-
-
- b) A survey was conducted to find the favourite subject from the school timetable.



- i) How many children chose English as their favourite subject? [/1]

- ii) Which is the most popular subject? [/1]

- iii) Which is the least popular subject? [/1]

- iv) How many students participated in the survey? [/2]

- c) Draw a line $\overline{AB} = 8$ cm. Mark a point X on \overline{AB} , such that $m\overline{AX} = 4$ cm. Draw a perpendicular at point X. [/3]

[Total: /10]

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Model Paper 3

Annual Examination

Mathematics

Class VI

Name: _____

Section: _____

Date: _____

Time: 2 Hours

Maximum Marks: 100

Read these instructions first:

- Write your name, section, and date clearly in the space provided.
- Answer all questions in Section A, Section B, and Section C.
- Show all your working along with the answer in the space provided.
- Omission of essential working will result in loss of marks.
- At the end of the examination, recheck your work before handing it over.
- The number of marks is given in brackets [] at the end of each question.
- This document consists of 10 printed pages.

_____ **For Examiner's Use Only** _____

Section	A	B	C				Total	
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	
Max. Marks	20	30	10	10	10	10	10	100
Marks Obtained								
Percentage								

Invigilated by: _____ Marked by: _____ Checked by: _____

Section A

Attempt **all** questions

[20 Marks]

Q1. Each question has four options. Encircle the correct answer.

I. Which of the following statements is false?

- A $5 \in \{\text{prime factor of } 25\}$
- B Potato $\in \{\text{vegetables}\}$
- C hexagon $\in \{\text{quadrilaterals}\}$
- D $36 \notin \{\text{multiples of } 7\}$

II. The set of whole numbers is

- A finite
- B infinite
- C empty
- D none of the above

III. By using distributive property, the value of $125 \times 11 + 125 \times 19$ is

- A 280
- B 375
- C 26125
- D 3750

IV. The value of $60 \div 6 + 6 \times 8 - 36$ is

- A 22
- B 92
- C 1
- D 4

V. Which of the following is a composite number?

- A 17
- B 37
- C 47
- D 57

VI. The LCM of 2, 4, 5, and 6 is

- A 240
- B 1
- C 60
- D 6

VII. Evaluate: $[(-3) + (-6)] \div 9$

- A 1
- B -1
- C 2
- D -9

VIII. If $x : 32 = 16 : 64$, then the value of x is

- A 64
- B 4
- C 16
- D 8

IX. Increase a price of Rs 60 by 5%.

- A Rs 66
- B Rs 63
- C Rs 65
- D Rs 57

X. The cost price of a shirt is Rs 120. If a discount of 25% is given on it, the selling price will be

- A Rs 90
- B Rs 30
- C Rs 25
- D Rs 150

XI. Simplify $2p + q - (p + q)$

- A $p + 2q$
- B p
- C $2p + 2q$
- D $3p$

XII. If $7a = 357$, then the value of a is

- A 51
- B 350
- C 50
- D 501

XIII. Which of the following statements is incorrect?

A pair of compasses is used to draw:

- A an arc
- B curved lines
- C an angle
- D circles

XIV. Which of the following is incorrect?

- A Intersecting lines
- B Parallel lines
- C Concurrent lines
- D Non-concurrent lines



- XV.** Angles at a point add up to
A 90°
B 180°
C 270°
D 360°
- XVI.** A right isosceles triangle has two acute angles
A False
B True
C Not always true
D None of the above
- XVII.** A right-angled triangle can be an isosceles triangle
A True
B False
C Sometimes
D None of the above
- XVIII.** If the area of a rectangular room is 24 m^2 , then which of the following can not be the measurements of the length and breadth?
A $L = 8 \text{ m}, B = 3 \text{ m}$
B $L = 12 \text{ m}, B = 12 \text{ m}$
C $L = 6 \text{ m}, B = 4 \text{ m}$
D $L = 1 \text{ m}, B = 24 \text{ m}$
- XIX.** How many cm^3 are there in 1 litre?
A 1 cm^3
B 10 cm^3
C 100 cm^3
D 1000 cm^3
- XX.** For a bar graph, which of the following statements is true?
A Bars are of different width
B There is no gap between the bars
C All bars are of the same height
D Bars can be vertical or horizontal

[Total: /20]

Section B

Attempt **all** questions

[30 Marks]

Q2.

- a) Find P, if $64 : P = 4 : 8$.

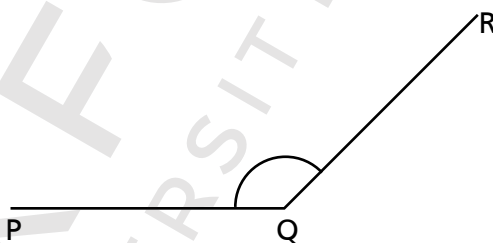
[/2]

- b) A piece of rope is 30 m long. It is divided into two pieces in the ratio 2 : 3. Find the length of the bigger piece.

[/2]

- c) Measure the angle and name it according to its size.

[/2]

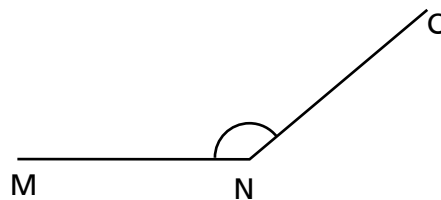
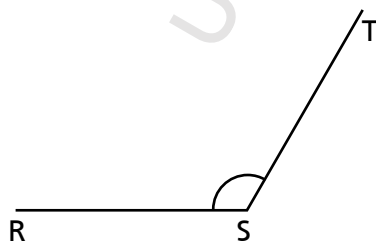


$\angle PQR =$ _____

$\angle PQR$ is _____

- d) Fill in the box with appropriate symbol $<$, $>$, or $=$.

[/2]



$m\angle RST$ $m\angle MNO$

- e) Calculate the perimeter of a rectangular field whose length and breadth are 80 m and 65 m respectively. [/2]

- f) The length of a cuboid is 15 cm and its width is 9 cm. If the volume of the cuboid is 810 cm^3 , what is the height of the cuboid? [/2]

- g) Set T = letters of the alphabet. Write the following subsets in tabular form:

i) Set V = vowels in the alphabet [/1]

ii) Set T = letters after t [/1]

iii) Set C = the first six consonants [/1]

- h) Use numbers 100, 200, and 300 to verify the distributive property of multiplication over subtraction. [/3]

- i) Find the simple interest and amount earned on Rs 5000 for 2 years at 5% per annum. [/3]

j) Add $x^2 + xy + y^2$, $2x^2 - 3xy + 4y^2$, $-x^2 + xy - 2y^2$.

[/3]

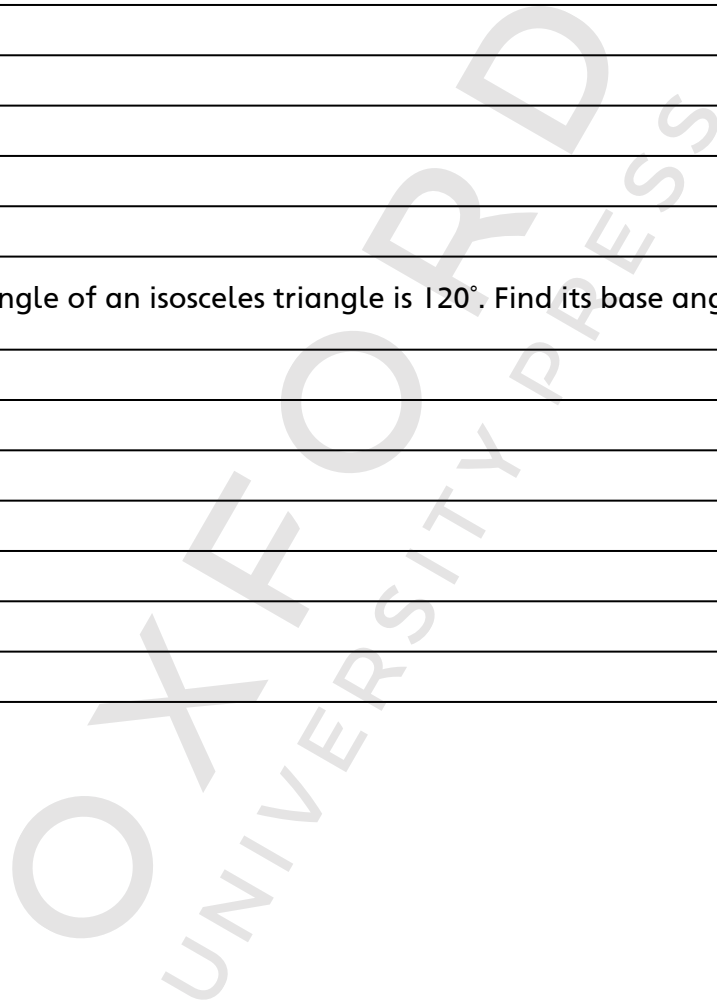
k) Solve: $\frac{9x}{5} - 6 = 3x$

[/3]

l) The vertical angle of an isosceles triangle is 120° . Find its base angles.

[/3]

[Total: /30]



Section C

Attempt **all** questions

[50 Marks]

Q3.

- a) When 23 is added to a certain number it is exactly divisible by 32, 36, 48, and 96. Find the smallest number. [/5]

- b) Mrs. Bashir has three pieces of lace with lengths 140 cm, 168 cm, and 210 cm. She wants to cut all the three pieces into small pieces of equal length.

- i) Find the greatest length of each smaller piece of lace. [/3]

- ii) How many smaller pieces of lace can she get? [/2]

[Total: /10]

=====

Q4. Simplify the following:

- a) $175 + (-50) - 125 + 425$ [/3]

b) $200 \div (-20) \times 300 \div (-30)$

[/3]

c)
$$\frac{(-9) \times [7 - (-2)] + (-9)}{[840 \div (-7)] \div (-4)}$$

[/4]

[Total: /10]

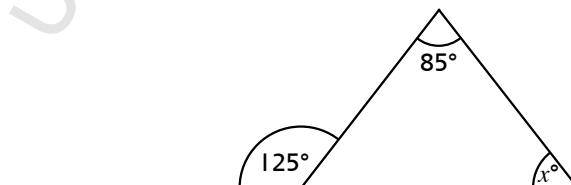
Q5.

a) If $p = -3, q = 4, t = 5$, evaluate: $\frac{(qt + tp + pq)}{pqt}$.

[/2]

b) Find the value of x .

[/3]



c) Simplify: $8x - 5y - [6x - 4 \{y - 3(x - y)\}]$ [/5]

[Total: /10]

=====

Q6.

a) A room is 12 m long, 10 m wide, and 8 m high. Find the cost of white-washing the four walls at the rate of Rs 100 per square metre. [/5]

b) The height of a building is 480 m. If its length is half of its height and breadth is one-third of its height, then find the volume of the building. [/5]

[Total: /10]

Q7.

- a) If one of the angle is 108° , then find its supplementary angle. [/2]

- b) The given frequency table represents different mode of transportation people use to get to the office.

Type of vehicle	Bicycle	Motorbike	Car	Bus
Frequency	4	10	25	16

- i) Draw a bar graph to represent the information. [/3]

- ii) How many vehicles are there altogether? [/1]

- iii) Which is the most commonly used vehicle? [/1]

- c) Draw a line $\overline{AB} = 6$ cm and bisect it. [/3]

[Total: /10]

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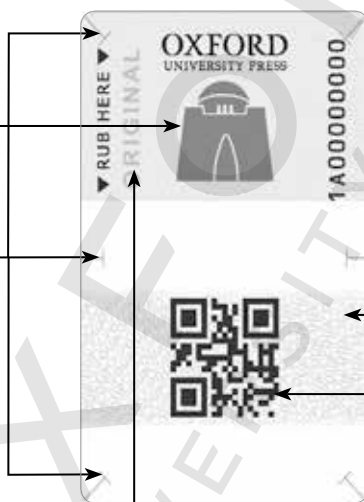
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