

CLASS 8TH MATHEMATICS REVISION FOR 2ND SEMESTER EXAM

Mathematics PAPER PATTERN

Q.1 Fill in the blanks.(5)

Q.2 Match the pairs. (5)

Q.3 Write the formula for the following. (5)

Q.4 Solve the following. (15)

- Divide. Write the quotient and the remainder.
- Solve the following equations.
- State the test and the one to one correspondence of vertices by which the triangles in each pair are congruent.
- Word problem in the area.
- Euler's Formula : Write faces, vertices & edges & verify.

Q.5 Solve the following. (20)

- Observe the following graph and answer the questions.
- Compound interest word problem.
- Word problem on Surface area
- Word problem on Volume.
- Word problem on Circle - Chord and Arc

Mathematics Revision

Q.1 Fill in the blanks.(5)

- The average is called 'mean' in statistical language.
- The algebraic expression in one variable is a polynomial if the index of variable of each term is a whole number.
- In a polynomial, the greatest index of the variable is the degree of the polynomial.
- While dividing a polynomial, the operation of division ends if the remainder is zero or the degree of the remainder is less than the degree of the divisor.
- If terms in the dividend are not in descending order, write them in descending order of indices.
- If any index term is missing, assume the coefficient of that term to be 0 and then complete the descending order.
- Solid figures occupy some space.
- The measure of the space occupied by a solid is called the volume of the solid.
- The perpendicular drawn from the centre of a circle to its chord bisects the chord.
- The segment joining the centre of a circle and midpoint of its chord is perpendicular to the chord.
- If the measures of two arcs of circle are same then two arcs are congruent.
- The chords corresponding to congruent arcs are congruent.
- In a circle if two chords are congruent then their corresponding minor arcs and major arcs are congruent

Q.2 Match the pairs. (5)

Group A	ANSWER
π	22/7 OR 3.14
r	2d
Base of a cylinder	circular
1000 cc	1 litre
1 sq cm	10 x 10 sq mm
100 sq m	1 are
1 hectare	10,000 sq m
$17p - 2 = 49$	$p=3$
$2p + 7 = 9$	$p=1$
$p - 4 = 3$	$p=7$
$9 + p = 3$	$p= -6$
$21m^2 / 7m$	$3m$
$40m^3 / (-10m)$	$-4m^2$

Q.3 Write the formula for the following. (5)

1. Simple Interest = $\frac{PNR}{100}$
2. Compound interest = $A - P$
3. Amount (compound Interest) = $P(1 + \frac{R}{100})^N$
4. Area of square = side^2
5. Area of rectangle = $\text{length} \times \text{breadth}$
6. Area of right angled triangle = $\frac{1}{2} \times \text{product of sides making right angle}$
7. Area of triangle = $\frac{1}{2} \times \text{base} \times \text{height}$
8. Area of a parallelogram = $\text{base} \times \text{height}$
9. Area of a rhombus = $\frac{1}{2} \times \text{product of lengths of diagonals}$
10. Area of a trapezium = $\frac{1}{2} \times \text{sum of the lengths of parallel sides} \times \text{height}$
11. Heron's formula for area of triangle = $\sqrt{s(s - a)(s - b)(s - c)}$ where $s = \frac{a+b+c}{2}$
12. Area of circle = πr^2
13. Circumference of a circle = $2\pi r$
14. Total surface area of a cuboid = $2(l \times b + b \times h + l \times h)$
15. Total surface area of a cube = $6l^2$
16. Volume of a cuboid = $l \times b \times h$
17. Volume of cube = $\text{side}^3 = l^3$
18. Curved surface area of cylinder = $2\pi rh$
19. Total surface area of cylinder = $2\pi r(h + r)$

20. Volume of cylinder = $\pi r^2 h$

21. Euler's formula $\therefore F + V = E + 2$

Q.4 Solve the following. (15)

1. Divide. Write the quotient and the remainder.

a. $(x^2 + 4x + 4) \div (x + 2)$

b. $(x^2 + 7x - 5) \div (x + 3)$

c. $(3x + 2x^2 + 4x^3) \div (x - 4)$

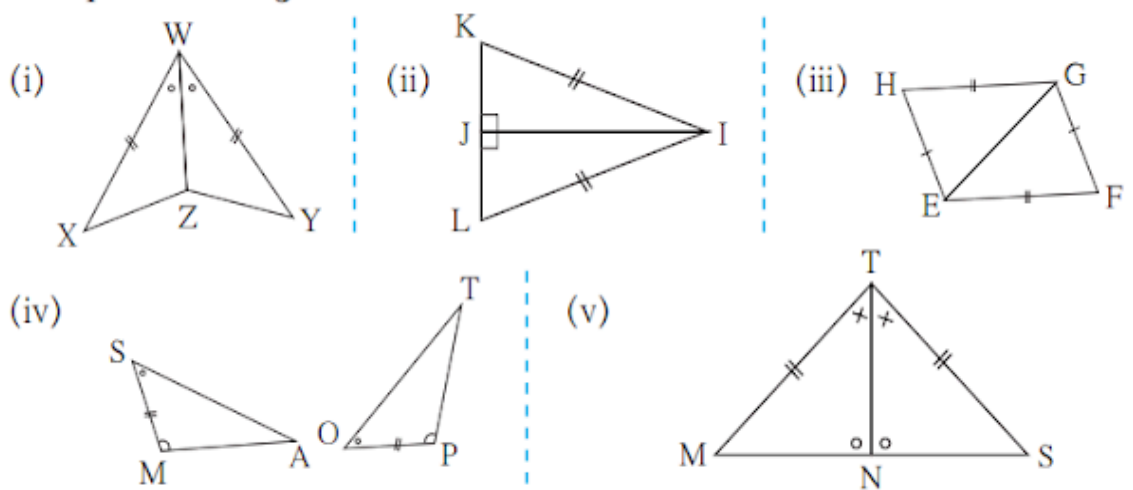
2. Solve the following equations.

a. $2(x - 3) = \frac{3}{5}(x + 4)$

b. $9x - 4 = 6x + 29$

c. $\frac{2}{3} + 5a = 4$

3. State the test and the one to one correspondence of vertices by which the triangles in each pair are congruent.



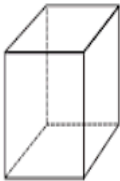
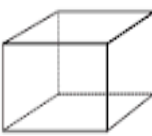



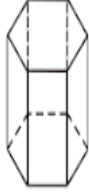
4. Word problem in the area.

a. If the base of a parallelogram is 18 cm and its height is 11 cm, find its area.

b. Lengths of the diagonals of a rhombus are 15 cm and 24 cm, find its area.

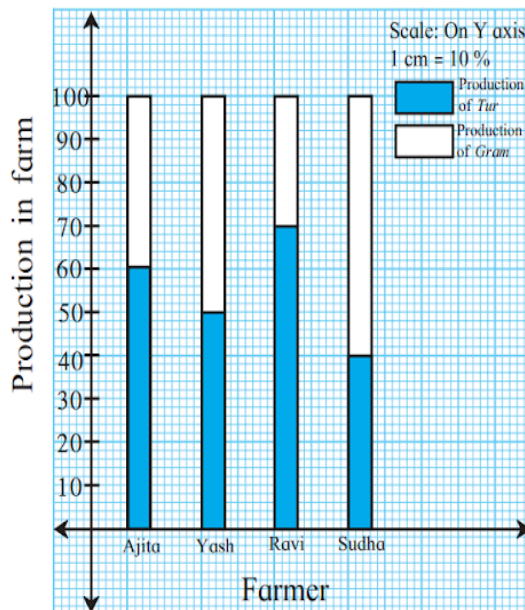
c. Length of the two parallel sides of a trapezium are 8.5 cm and 11.5 cm respectively and its height is 4.2 cm, find its area.

5. Euler's Formula : Write faces, vertices & edges & verify.

Name	Cube	Cuboid	Triangular Prism	Triangular pyramid	Pentagonal pyramid	Hexagonal prism
Shapes						

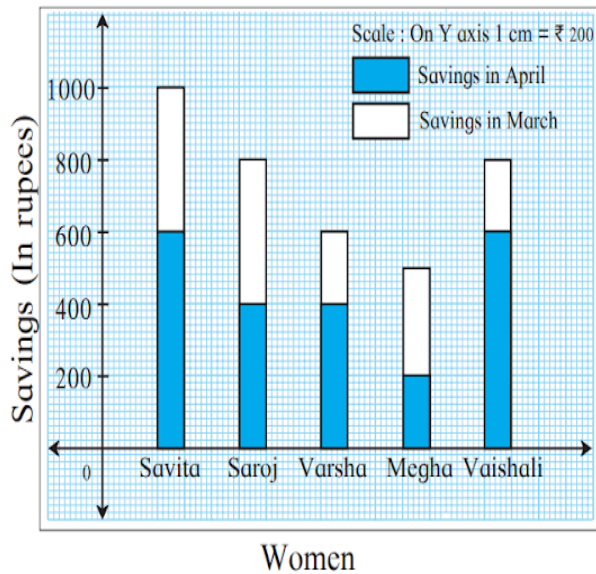
Q.5 Solve the following. (20)

1. Observe the following graph and answer the questions.



a.

- (1) State the type of the bar graph.
- (2) How much percent is the Tur production to total production in Ajita's farm ?
- (3) Compare the production of Gram in the farms of Yash and Ravi and state whose percentage of production is more and by how much ?
- (4) Whose percentage production of Tur is the least?
- (5) State production percentages of Tur and gram in Sudha's farm.



- (1) State the type of the graph.
- (2) How much is the savings of Vaishali in the month of April?
- (3) How much is the total of savings of Saroj in the months March and April?
- (4) How much more is the total savings of Savita than the total savings of Megha?
- (5) Whose savings in the month of April is the least?

- b.
- c.

2. Compound interest word problem.

- a. Find the compound interest if ₹ 4000 are invested for 3 years at the rate of $12\frac{1}{2}$ p.c.p.a.
- b. The amount of a certain principal is ₹ 6655 in 3 years, compounded annually at the rate of 10 p.c.p.a. Find the principal.
- c. Find the number of years for which the compound interest of ₹9000 is ₹1890, at the rate of 10 p.c.p.a. .

3. Word problem on Surface area

- a. Find the total surface area of a closed cylindrical drum if its diameter is 50 cm and height is 45 cm. ($\pi = 3.14$)
- b. Find the curved surface area of the cylinder. $r = 7$ cm, $h = 10$ cm
- c. Find the total surface area of the cube whose side is 8 m.

4. Word problem on Volume.

- a. Find the volume of a box if its length, breadth and height are 20 cm, 10.5 cm and 8 cm respectively.
- b. Find the volume of the cylinder if height (h) and radius of the base (r) are as given below. $r = 10.5$ cm, $h = 8$ cm
- c. How many bricks of length 25 cm, breadth 15 cm and height 10 cm are required to build a wall of length 6 m, height 2.5 m and breadth 0.5 m?

5. Word problem on Circle - Chord and Arc

- a. In a circle with centre P, chord AB is drawn of length 13 cm, seg PQ \perp chord AB, then find l(QB).
- b. Radius of a circle with centre O is 25 cm. Find the distance of a chord from the centre if length of the chord is 48 cm.
- c. C is the centre of the circle whose radius is 10 cm. Find the distance of the chord from the centre if the length of the chord is 12 cm