DELHI PUBLIC SCHOOL, DURGAPUR

QUESTION BANK & REVISION SHEET FOR FINAL TERM (2017-18)

CLASS-VI

SUB:MATHEMATICS

SIMPILIFICATION

1.) $15+24\div3-1\times6$ 2)$36-[18-\{14-(15-4\div2\times2)\}]$ 3)$19-[4+\{16-(12-2)\}]$

4) $\left(\frac{2}{3}+\frac{4}{9}\right) of \frac{3}{5}\div1\frac{2}{3}\times1\frac{1}{4}-\frac{1}{3}$ 5) $7\frac{1}{3}\div\frac{2}{3} of 2\frac{1}{5}+1\frac{3}{8}\div2\frac{3}{4}-1\frac{1}{2}$

6) $5\frac{1}{7}-\left\{3\frac{3}{10}\div\left(2\frac{4}{5}-\frac{7}{10}\right)\right\}$

Triangle

1.If the angles of a triangle are in the ratio 3:4:11 ,find the angles.

2.The vertical angle of an isosceles triangle is three times the sum of its base angle .Find the angles of the triangle.

3. One of the acute angle of a right triangle is 70^0. Find the other acute angle.

4. One of the angles of a triangle is 100^0 and the other two angles are equal .What is the measure of each of these equal angles?

5. In a ΔABC, $3\angle A = 4\angle B = 6\angle C$, calculate the angles.

6.Can a triangle have three sides whose length are

a) 4.5 cm , 3.8 cm ,7.2 cm? b) 3.4 cm, 5.3cm, 8.7cm

7. Can a triangle have three angles whose angles are

a) 45^0 ,55^0, 75^0 b) 67^0 ,73 ,30

8.In an isosceles triangle ABC ,the bisector of $\angle B$ and $\angle C$ meet at point O. If $\angle A = 40^0$ then find angle $\angle BOC$.

9.The sides of a triangle are in the ratio 5: 3: 4 and its perimeter is 72 cm .find the length of the shortest side.

10.If one of a triangle is equal to the sum of other two ,show that the triangle is a right triangle.

QUADRILATERAL

1.The three angles of a quadrilateral are 80^0, 60^0 and 130^0 .Find the fourth angle.

2.Two sides of a parallelogram are in the ratio 5: 2 .If its perimeter is 49 cm,find the lengths of its sides.

3. Draw the shapes of rhombus ,rectangle, parallelogram and also write their properties.

4.Draw the shapes of convex and concave polygon and also write their difference.

5 The angles of a quadrilateral are in the ratio 2:3:4:6.Find the measures of these angles.

6. The two adjacent angles of a parallelogram are in the ratio 4: 5 ,find all the angles of a parallelogram.

PERIMETER AND AREA

1.Find the perimeter of a rectangle whose length and breadth ate 15.4 cm and 11.6 cm respectively.

2. The cost of fencing a rectangular field at Rs 24 per meter is Rs 1920.If its length is 23 m,find its breadth.

3.Find the perimeter of a square ,each of whose sides measures 3.6 cm.

4.The length and the breadth of a rectangular field are in the ratio 5:3.If its perimeter is 128 m, Find the dimension of the field.

5. The length and the breadth of a rectangular field are in the ratio 7:4. The cost of fencing the field at Rs 25 per meter is Rs 3300 .Find the dimension of the field.

6.Find the perimeter of a regular pentagon of side 8.5 cm.

7.Find the radius of a circle whose circumference is 176 cm.

8.Find the distance covered by the wheel of a car in 500 revolution if the diameter of the wheel is 77 cm

9.The side of a rectangle are in the ratio 7:5 and its perimeter is 96 cm .Find the dimension of the rectangle and its area

10.Find the area of a square whose diagonal is $5\sqrt{2}$ cm.

11. A lane 150 m long and 9m wide is to be paved with the bricks ,each measuring 22,5 cm by 7.5cm .How many bricks are required ?

12. Find the perimeter of an isosceles triangle with equal sides 7cm each and the third side is 5.5 cm.

13.If the ratio between the length and the perimeter of a rectangle plot is 1:3 ,find the the ratio between the length and the breadth of the plot.

14.The length of the diagonal of a square is 20 cm.Find its area.

15.How many square tiles each of side 0.5 m will be required to pave the floor of a room which is 4m long and 3 m broad.

ALGEBRAIC EXPRESSION

1.If x = 1 ,y = -2 and z = 3,find the value of

a) $x^3+y^3+z^3-3xyz$ b) $3xy^4-15x^2y+4z$ c) $3x-2y+4z$ d) $2x^2-3y^2+z^2$

e) $x^3-y^3-z^3$ f) $2x^2y-5yz+xy^2$

2.Add:

a) $8a-6ab+5b$,$-6a-ab-8b$,$-4a+2ab+3b$ b) $3a-2b+5c$,$2a+5b-7c$,$-a-b+c$

c) $2+x-x^2+6x^3$,$-6-2x+4x^2-3x$,$2+x^2$,$3-x^3+4x-2x^2$

d) $x^3+y^3-z^3+3xyz$,$-x^3+y^3+z^3-6xyz$,$x^3-y^3-z^3-8xyz$

3. Subtract:

a) $5a+7b-2c$ from $3a-7b+4c$

b) $-2a+b+6d$ from $5a-2b-3c$

c)$6x^3-7x^2+5x-3$ from $4-5x+6x^2-8x^3$

d)$5x^2-3xy+y^2$ from $7x^2-2xy-4y^2$

4.From the sum of $3x^2-5x+2$ and $-5x^2-8x+6$,subtract $4x^2-9x+7$.

5.If $A = 7x^2+5xy-9y^2$,$B = -4x^2+xy+5y^2$ and $C=4y^2-3x^2-6xy$ then show that A+B+C =0

6.What must be added to $5x^3-2x^2+6x+7$ to make the sum x^3+3x^2-x+1?

7.Subtract the sum of 5x-4y+6z and -8x+y-2z from the sum of 12x-y+3z and -3x+5y -8z.

8.Simplify:

a) $-2(x^2-y^2+xy)-3(x^2+y^2-xy)$

b) $xy-[yz-zx-\{yx-(3y-xz)-(xy-zy)\}]$

c) $-a-[a+\{a+b-2a-(a-2b)\}-b]$

d) $5x-[4y-\{7x-(3z-2y)+4z-3(x+3y-2z)\}]$

CONSTRUCTION

1.Draw the perpendicular bisector of a given line segment AB of length 5cm.

2.An angle $\angle AOB = 120^0$ .Draw a ray OX bisecting $\angle AOB$

3.Draw a line AB .Take a point P outside it .Draw a line passing through P and perpendicular to AB.

4.Draw a line AB .Take a point P outside it .Draw a line passing through P and parallel to AB

5.Draw a line segment AB =6cm .Take a point C on AB such that AC =2.5 cm.Draw CD perpendicular to AB

6.Use a pair of compasses and construct the following angles and draw their bisectors also.

a)150^0 b)105^0 c)135^0 d)75^0 e) 90^0

LINEAR EQUATION

1.Solve the following equation

a) 3(x+6)=24 b)6x+5 =2x+17 c) 3(x+2)-2(x-1)=7 d) $\frac{x}{4}$-8 = 1

e) 6(1-4x)+7(2+5x)=53 f) $\frac{2x}{5}-\frac{3}{2}=\frac{x}{2}+1$ g) $\frac{x-3}{5}-2=\frac{2x}{5}$ h) $\frac{n}{4}-5=\frac{n}{6}+\frac{1}{2}$

2.The sum of three consecutive natural numbers is 74 .Find the numbers .

3.Reena is 6 years older than her brother Ajay .If the sum of their ages is 28 years ,what are their present ages?

4.A man is thrice as old as his son.Five years ago the man was four times as old as his son.Find their present ages.

5. A bag contains 25-paisa and 50 paisa coins whose total value is Rs 30 .If the number of 25-paisa coins is four times that of 50 paisa coins,find the number of each type of coins.

6.A wire of length 86 cm is bent in the form of a rectangle such that its length is 7 cm more than its breadth.Find the length and breadth of the rectangle so formed.

7.The length of a rectangular park is thrice its breadth.If the perimeter of the park is 168 m,find the dimensions.

8.If a number is tripled and the result is increased by 5 ,we get 50.Find the number.

9.Find two numbers such that one of them exceeds the other by 18 and their sum is 124 ,find the numbers.

10.After 16 years ,seema will be there times as old as she is now .Find her present age.

RATIO ,PROPORTION AND UNITARY METHOD

1.Divide Rs 1575 between A,B and C in the ratio 3:5:7.

2.The ratio of the length of a field to its width is 5:3 .Find its length if the width is 42 m.

3.The boys and the girls in a school are in the ratio 9:5 .If the total strength of the school is 448 ,find the number of girls.

4.Find two equivalent ratio of 3:4 and 5:6

5.If 9,x,x,49 are in proportion ,find the value of x.

6.The 1^{st} ,3^{rd} and the 4^{th} terms of a proportion are 12 ,8 and 14 respectively .Find the 2^{nd} term.

7.If 36:x: : x :16 ,find the value of x.

8.If 25,35,x are in proportion ,find the value of x.

9.Cost of 4 dozen bananas is Rs 104 .How many bananas can be purchased for Rs 6.50 .

10.40 men can finish a piece of work in 26 days .How many men will be needed to finish it in 16 days?

11,In an army camp ,there were provision for 550 men for 28 days .But ,700 men attended the camp .How Long did the provision last ?

ANGLES AND THEIR MEASUREMENT

1.Draw a line segment AB = 6cm .Take a point C on AB such that AC = 4cm .From C,draw CD $\perp$ AB.

2.How many degrees are there in

a) 2/3 right angles b) four right angles c) 2/3 right angles

3.If there are 36 spokes in a bicycle wheel .Find the angle between a pair of adjacent spokes.

DATA HANDLING

Q 1A dice was thrown 30 times and the following outcomes were noted:
4,3,3,2,5,4,4,6,1,2,2,3,4,6,1,2,2,3,4,6,2,3,3,4,1,2,3,3,4,5,6,3,2,1,3,4
Represent the above data in the form of frequency distribution table.

Q 2) The numbers of bats sold by a shop during first five days are given below :

Days	MON	TUE	WED	THUR	FRI
No of bats sold	14	35	28	7	42

Draw a pictograph

Q 12) Read the graph carefully and answer the following:

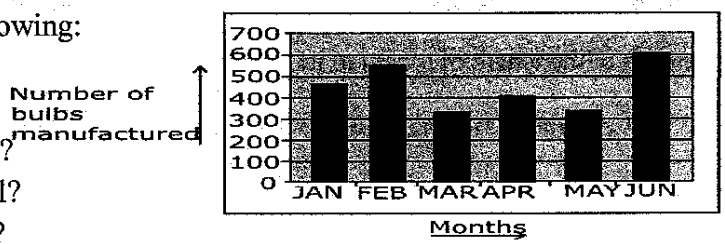
(i) What does the graph represent?

(ii) In which month was the production maximum?

(iii) In which two months was the production equal?

(iv) In which month was the production minimum?

(v) What was the production in January?



Syllabus for Final term exam : a)Simplification b) algebraic expression c) Linear equation in one variable d) Ratio, proportion and unitary method e)Angles and their measurement f) Construction g)Quadrilateral h) Triangle i) perimeter and area j) Data handling k) Pictograph l) Bar Graph