



MATA JAI KAUR PUBLIC SCHOOL
HOLIDAYS HOMEWORK / CLASS – IX

ENGLISH

Read the novel 'Three Men in a Boat' BY Jerome K. Jerome. A follow up subject enrichment activity will be taken up.

HINDI (To be done in the Hindi Assignment Notebook)

1. नीचे दिए गए विषयों में से किन्हीं चार पर विज्ञापन बनाइए :
 - नए खुलने वाले 'फर्नीचर - हाउस' के लिए ।
 - ज्योतिष की दुकान के लिए ।
 - घर की बिक्री हेतु ।
 - कार - ड्राइवर की आवश्यकता हेतु ।
 - नए खुले विद्यालय की विशेषताएँ बताते हुए - प्रवेश हेतु ।
 - बच्चों के 'रेडीमेड' कपड़ों की दुकान की बिक्री बढ़ाने हेतु ।
2. 'संचयन' के पाठों का स्व-अध्ययन कीजिए :
 - मेरा छोटा-सा निजी पुताकालय
 - हामिद खाँ
3. स्वर-संधि तथा व्यंजन-संधि का व्याकरण की पुस्तक में से अभ्यास कीजिए।

PUNJABI

ਦਿੱਤੇ ਗਏ ਚਿੱਤਰਾਂ ਦਾ ਵਰਤਣ ਲਗਭਗ 50 ਸ਼ਬਦਾਂ ਵਿੱਚ ਕਰੋ। (ਇਹ ਚਿੱਤਰ ਇਤਿਹਾਸ ਦੀ ਕਿਤਾਬ ਵਿੱਚ ਹਨ। (Page 81 and 87)

MATHEMATICS (Do these questions on register sheets)

CONSTRUCTIONS

1. Construct $\triangle LXY$ is base angles $\angle X=60^\circ, \angle Y=45^\circ$ and its perimeter is 13 cm.
2. Construct \triangle triangle PQR, in which $QR=8.4$ cm, $\angle Q=45^\circ$ and $PR-RQ = 2.8$ cm.
3. Construct $\triangle HIJ$, if $IJ=4.5$ cm, $\angle I=45^\circ$ and $HI-HJ=18$ cm.
4. Construct $\triangle ABC$ in which $BC=6$ cm, $\angle B=75^\circ$ and $AB+AC=14$ cm.
5. Construct a right angled triangle PQR right angled at Q. QR is 4 cm and the sum of other side and hypotenuses is 8 cm.

HERON'S FORMULA

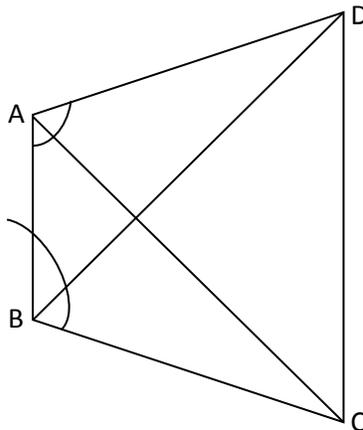
6. Find area of triangle whose perimeter is 180cm and two of its sides are 80cm and 18cm. Also calculate the altitude of triangle corresponding to shortest side?
7. The sides of a triangular plot are in ratio of 3:5:7 and its perimeter is 300m. Find its area.
8. A triangular park in a city has dimensions 30cm X 26cm X 28cm. A gardener has to plant grass inside the part at Rs1.50 /m². Find amount to be paid to gardener.
9. An isosceles triangle has perimeter 30cm and each of equal sides is 12cm. Find area of triangle.
10. In a quadrilateral ABCD, AB=9cm, BC=40cm, CD=15cm, and DA=28cm and $\angle D=90^\circ$. Find area of quadrilateral.

TRIANGLES

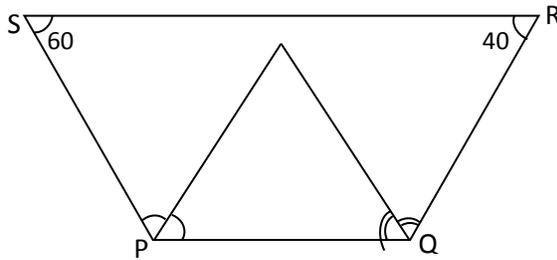
11. The sides BC, CA and AB of triangle ABC are produced in order to form interior angles $\angle ACD$, $\angle BAE$, $\angle CBF$. Show that:
$$\angle ACD + \angle BAE + \angle CBF = 360^\circ$$
12. In an isosceles triangle with $AB=AC$, the bisectors of $\angle B$ and $\angle C$ intersect each other at O. Join A to O. Show that:
 - a) $OB=OC$
 - b) AO bisects $\angle A$
13. In triangle ABC right angled at A, AL is drawn perpendicular to BC. Prove that $\angle BAL = \angle ACB$.
14. AB is a line segment and P is the mid point. D and E are points on same side of AB such that $\angle BAD = \angle ABE$ and $\angle EPA = \angle DPB$.
Show that : $\triangle DAP \cong \triangle EBP$ and $AD=BE$
15. AB and CD are perpendicular to BD. Also $AB=CD$ and $AF=CE$. Prove that $BE=FD$

QUADRILATERALS

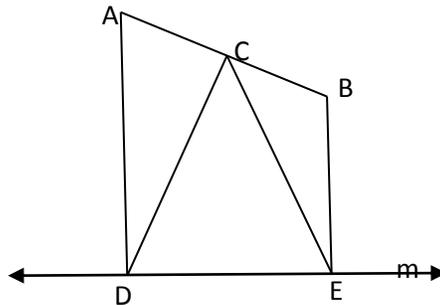
16. ABCD is a quadrilateral in which $AD=BC$ and $\angle DAB = \angle CBA$. Prove that:
 - a) Triangle $ABD \cong$ triangle BAC
 - b) $BD=AC$
 - c) $\angle ABD = \angle BAC$



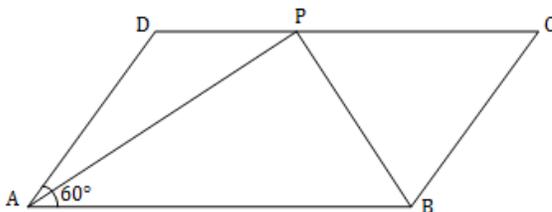
17. In a quadrilateral PQRS, PO and QO are the bisectors of $\angle P$ and $\angle Q$. If $\angle R=40^\circ$ and $\angle S=60^\circ$, Find the measure of $\angle POQ$.



18. Points A and B are on the same side of a line m, $AD \perp m$ and $BE \perp m$ and C meet m at D and E. If C is the midpoint of AB, prove that $CD=CE$.



19. ABCD is a parallelogram in which $\angle A = 60^\circ$. If bisectors of $\angle A$ and $\angle B$ meet at P, prove that $AD=DP$, $PC=CB$, $DC=2AD$.

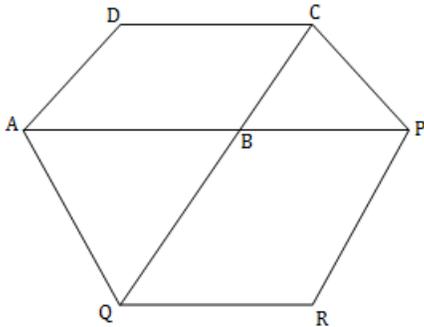


20. Two opposite angles of a parallelogram are $(3x-2)$ and $(63-2x)$. Find the other angles.
 21. Show that the quadrilateral formed by joining the mid points of the consecutive sides of a rectangle is a rhombus.

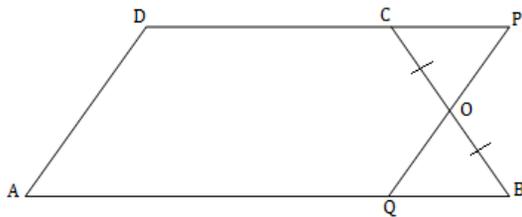
AREAS OF PARALLELOGRAM AND TRIANGLES

22. Prove that median of a triangle divides it into two triangles of equal areas.

23. The side AB of a parallelogram ABCD is produced to any point P. A line through A and parallel to CP meets CB produced at Q and then parallelogram PBQR is completed. Show that $\text{ar}(\text{ABCD}) = \text{ar}(\text{PBQR})$.



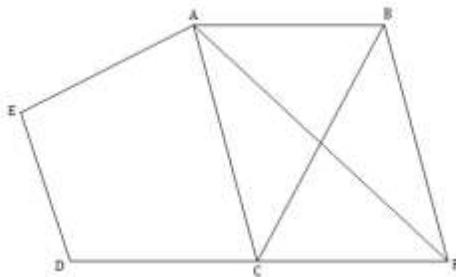
24. In the figure, ABCD is a trapezium in which $AB \parallel DC$. Q is the mid point of BC. Through the line O, a line $PQ \parallel AD$ has been drawn which intersects AB at Q and DC produced at P. Prove that $\text{ar}(\text{ABCD}) = \text{ar}(\text{AQP})$.



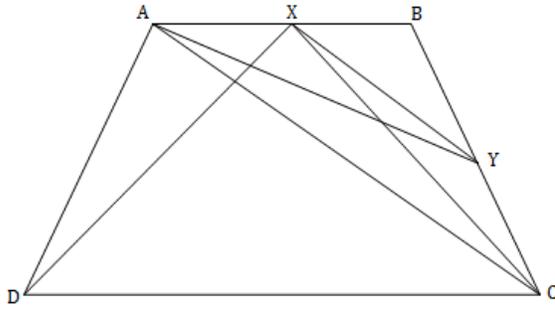
25. D and E are points on sides AB and AC respectively of $\triangle ABC$ such that $\text{ar}(\text{DBC}) = \text{ar}(\text{EBC})$.

26. In the figure, ABCDE is a pentagon. A line through B parallel to AC meets DC produced at F. Show that:

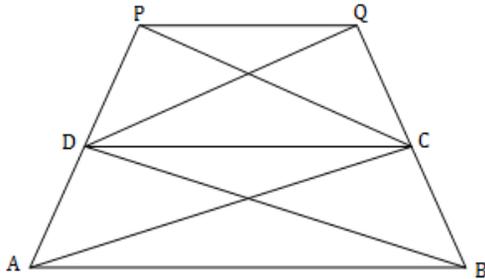
- $\text{ar}(\text{ACB}) = \text{ar}(\text{ACF})$
- $\text{ar}(\text{AEDF}) = \text{ar}(\text{ABCDE})$



27. ABCD is a trapezium with $AB \parallel DC$. A line parallel to AC intersects AB at X and BC at Y. Prove that $\text{ar}(\text{ADX}) = \text{ar}(\text{ACY})$.



28. In $\triangle PQR$, X, Y and Z are the mid points of the sides PQ, QR and PR respectively. If $\text{ar}(\triangle XYZ) = 12\text{cm}^2$. Find area of $\triangle YZR$.
29. ABCD is a parallelogram and $AE \perp DC$. If $AB = 20\text{cm}$ and area of parallelogram ABCD is 80cm^2 . Find AE
30. $PQ \parallel CD \parallel AB$. Prove that $\text{ar}(\triangle ACP) = \text{ar}(\triangle BDQ)$.



SCIENCE

1. The boiling point of alcohol is 78°C , what is the temperature on Kelvin scale?
2. An object goes from point X to Y and then comes back from Y to X, what is the displacement and average velocity?
3. What are chromosomes made up of?
4. Define the term evaporation. What is the effect of temperature on it?
5. How will the equations of motion for an object moving with a uniform velocity change?
6. A motor cyclist drives from A to B with a uniform speed of 50 km/h and returns back with a speed of 20 km/h. Find its average speed.
7. What are the functions of vacuole?
8. Water as ice has a cooling effect, whereas water as steam may cause severe burns. Explain these observations.
9. What do you infer if
 - (a) distance-time graph is straight line?
 - (b) velocity-time graph is curved?
 - (c) displacement-time graph is zig-zag?
10. Out of solids, liquids and gases, which one has
 - (a) maximum movement of particles?
 - (b) maximum interparticle forces of attraction?
 - (c) maximum spaces in between constituent particles?Why?

11. How is a bacterial cell different from an onion peel cell?
12. How does *Amoeba* obtain its food?
13. Explain the effect of pressure on solid, liquid and gas?
14. An object starting from rest travels 20 m in first 2 s and 160 m in next 4 s, what will be the velocity after 7 s from the start?
15. Differentiate between rough and smooth endoplasmic reticulum. How is endoplasmic reticulum important for membrane biogenesis?

SOCIAL SCIENCE

Answer the following questions:-

1. What was Blandongdienstien system?
2. How were forests classified on the basis of the Forest Act, 1878?
3. Distinguish between Moist Deciduous and Dry Deciduous Forests.
4. Who was the first Inspector General of Forests in India? Why was he appointed?
5. What are biomes?
6. Name any five medicinal plants. State the uses of each one of them.
7. Which are the most widespread forests of India? Mention any two characteristic features of these forests.
8. Where is Bastar located? Why did the rebellion take place in Bastar?
9. What is an ecosystem? How do human beings influence the ecology of a region?
10. How did Forest Act affect the lives of forest dwellers and villagers?