

## HOME WORK, WEEKS 3 AND 4

CLASS: SS2

TEACHERS' PHONE NOS: 08030459602

SUBJECT: TECHNICAL DRAWING

EMAIL: oluwarotimiaweda@gmail.com

WEEK	TOPIC	CONTENT	OBJECTIVES
3	Equal Area of similar Figures	Construction of areas e.g. triangles and quadrilaterals triangles and polygons	State the assumptions of theorems of equal areas Construct plain figures of equal areas
4	Locking Devices	Types of locking devices e.g. lock nut, washer, slotted nut, keys, splines etc	Explain types of locking devices

### OBJECTIVE QUESTIONS

1. Which of the following devices prevent fasteners from slacking off from vibrating machinery?

- A. locking devices    B. nuts    C. bolts    D. screws

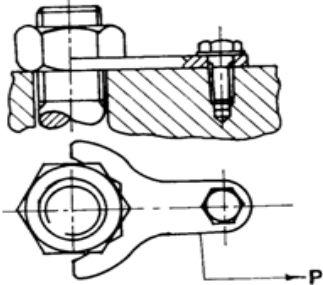
2. The following are locking devices:

- I    Locking plate;  
II    Castle nut;  
III    Grub screw.

Which of them is/are positive locking devices?

- A. I and III only    B. III only  
C. II and III only    D. I and II only

3. What is the device labelled **P** in the drawing called?



- A. Tab washer    B. Star washer  
C. Locking plate    D. Wire locking

4. The split pin is a \_\_\_\_\_ locking device.

- A. negative    B. fictional    C. perfect    D. positive

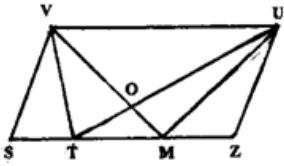
5. A hexagon nut with six slots cut across the top face is known as \_\_\_\_\_ nut.

- A. castle    B. ring    C. slotted    D. lock

6. Grub screw is a \_\_\_\_\_ locking device.

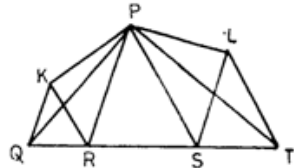
- A. negative    B. fictional    C. perfect    D. positive

7. Which two triangles have the same area in the figure below?



- A. TOM and MZU    B. MUT and VST  
 C. VTM and TUM    D. MOU and MVU

8. In the figure below which of the following is equal in area to the polygon KPLSR?



- A. Trapezium QRPK  
 B. Trapezium STLP  
 C. Triangle QPT  
 D. Triangle RPS

9. Which of the following is a frictional locking device?

- A. taper pin    B. slotted nut    C. lock nut    D. locking plates

10. Wire locking is a \_\_\_\_\_ locking device.

- A. negative    B. fictional    C. positive    D. smooth

**ESSAY QUESTIONS**

An irregular polygon, ABCDE has the following details in millimeters:

AB=52    BC=40  
 CD=76    DE=62  
 EA=72

ANGLES BAE=107° and ABC=151°

Use the details given above, to answer questions 1-5.

1. Draw the irregular polygon, ABCDE.
2. Change the irregular polygon, ABCDE into a triangle, PQR, equal in area.
3. Change the triangle, PQR, into a rectangle, STUV equal in area to the triangle.
4. Change the rectangle, STUV, into a square, WXYZ, equal to the area of given polygon, ABCDE.
5. Measure and state the length of the square.