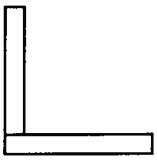
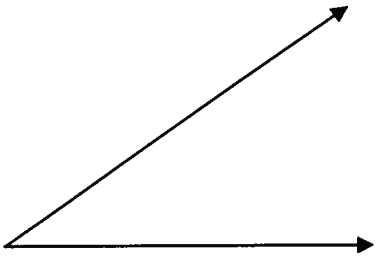
Bisecting an angle involves dividing it into two congruent (equal) parts. When you bisect an angle you are essentially dividing the angle into two angles that are equal. Perpendicular lines and segments form right angles. Look around your desk and classroom and identify any perpendicular lines or line segments. All rectangular or square objects contain them.

Angle Bisector: (÷2)

Framing Square:  Tool used to draw straight lines, perpendicular (T) lines and 90°

Example 1:

Bisect the following angle using your protractor.

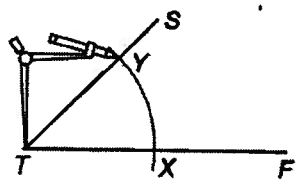


Steps:
1) Measure the angle: _____
2) Divide by 2: _____
3) Measure and mark the angle.
4) Draw the line.

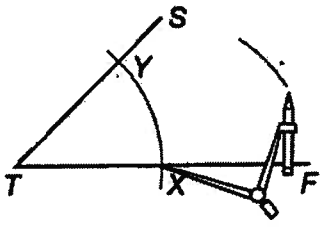
Example 2:

Bisect the following angle using your compass.
Steps:

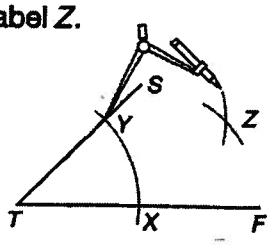
A. Draw an arc on $\angle STF$. Label X and Y.



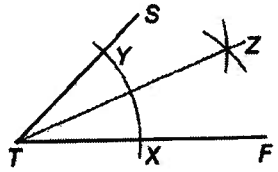
B. With centre X, draw an arc.

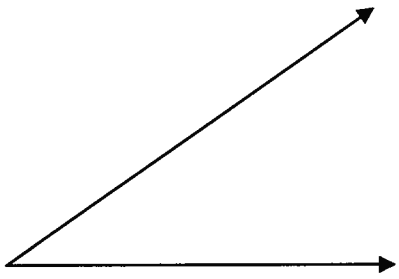


C. With centre Y and the same radius, draw another arc. Label Z.



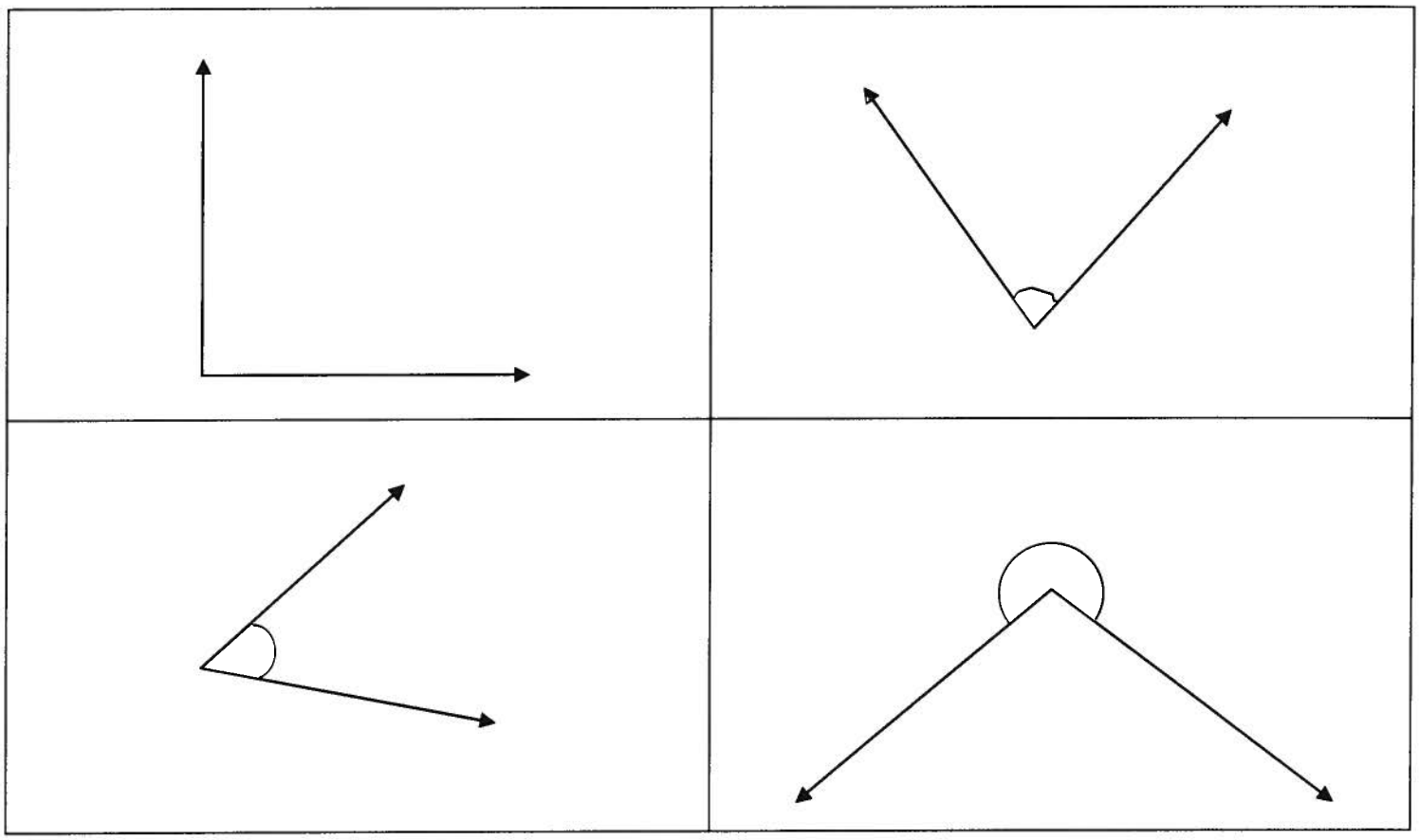
D. Use a straightedge to join T to Z.





Example 3:

For each of the following angles determine and draw the angle bisector of each angle.



Example 4

Suppose you want to divide the angle below into 4 equal angles to create a funky design. How could you do it using your knowledge of bisecting angles?