Name: _____ Period: _____ Date: _____

Circles Assignment

Answer the following questions.

1. Define constructions.

2. What are the basic tools that are used to draw geometric constructions?

3. What is the use of constructions?

4. What is Compass?

5. What is Straight edge?

6. What are the seven basic geometric constructions?

7. Name two geometric shapes that can be constructed using seven basic geometric constructions.

8. Write the definition of Perpendicular lines.

9. Write the definition of Parallel lines.

10. Name two congruent angles if bisector of angle ABC is LM ray is.

11. Name two congruent segments, if XY line is the perpendicular bisector of $\overline{MN}$ at point A?

12. Draw Perpendicular bisector of a line segment AB through a point on the line and write its steps.

Circles Assignment

State true or false

13. An angle bisector is a point that divides an angle into two congruent angles.

(a) True   **(b)** False

14. A segment bisector is a point that divides a line segment into two equal parts.

(a) True   **(b)** False

15. A perpendicular line is a line, segment or ray that divides a segment into two congruent segments.

(a) True   **(b)** False

ANSWERS

Answer the following questions.

1. Define constructions.

The Drawing of various lines, angles, and shapes using only pencil, compasses and straightedge is known as constructions.

2. What are the basic tools that are used to draw geometric constructions?

Constructions use only pencil, compass, and a straightedge.

3. What is the use of constructions?

Constructions are useful to draw lines and angles without measuring anything.

Circles Assignment

4. What is Compass?

Compasses are a drawing instrument used for drawing circles and arcs. It has two legs, one with a point and the other with a pencil. Distance between the point and the pencil can be adjusted according to need.

5. What is Straight edge?

A straightedge is simply a guide for the pencil when drawing straight lines. Straightedge is the basic form of geometric construction which has no numbers.

6. What are the seven basic geometric constructions?

1. Bisect a line segment.
2. Construct congruent segments
3. Construct a line perpendicular to a given line through a point on the line.
4. Construct a line perpendicular to a given line through a point not on the line.
5. Construct a line parallel to a given line through a point not on the line.
6. Construct a Congruent angle.
7. Construct an angle bisector.

7. Name two geometric shapes that can be constructed using seven basic geometric constructions.

Equilateral triangles and Right triangles

8. Write the definition of Perpendicular lines.

Perpendicular lines are lines that intersect to form right angles.

9. Write the definition of Parallel lines.

Parallel lines are lines which never meet and have always same distance apart.

10. Name two congruent angles if bisector of angle ABC is ray LM.

Angle ABL and Angle ABM

Circles Assignment

11. Name two congruent segments, if XY line is the perpendicular bisector of $\overline{MN}$ at point A?

$\overline{MA}$ **and** $\overline{AN}$

12. Draw Perpendicular bisector of a line segment AB through a point on the line and write its steps.
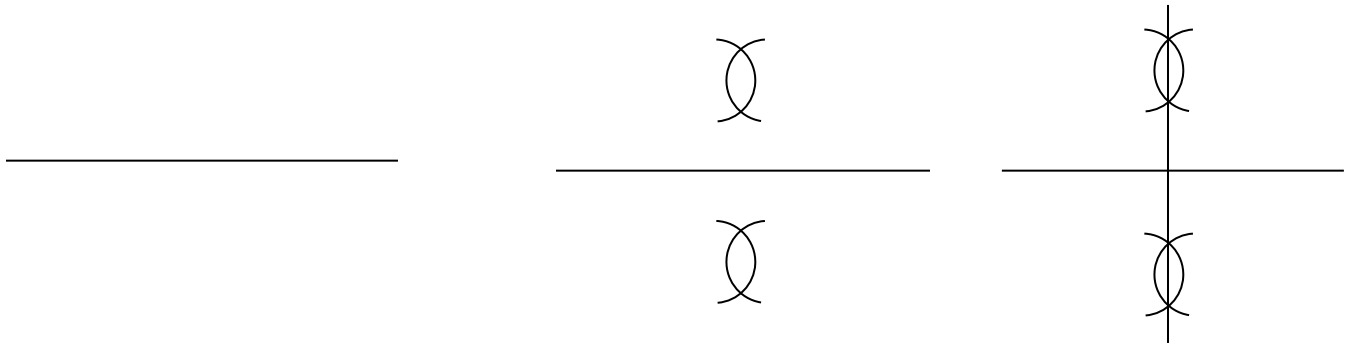
Step1. Draw a Line segment

Step2. With compass set more than half the length of line segment.

Step3. Put the point of the compass on one end of the segment and construct an arc above or below the segment.

Step4. With same measure of compass put the point of the compass on the other end of the segment and construct an arc above or below the segment.

Step5. Draw a segment connecting the intersection of the arcs.

Circles Assignment
State true or false

13. An angle bisector is a point that divides an angle into two congruent angles.

(a) True   **(b)** <mark>False</mark>

14. A segment bisector is a point that divides a line segment into two equal parts.

(a) <mark>True</mark>   **(b)** False

15. A perpendicular line is a line, segment or ray that divides a segment into two congruent segments.

(a) True   **(b)** <mark>False</mark>