

LESSON 171 Review: Constructions

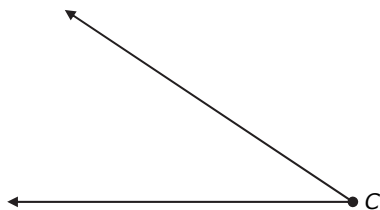
1. Construct a segment congruent to \overline{AB} .



2. Construct the perpendicular bisector and midpoint of your segment above.

3. Construct a segment twice the length of \overline{AB} above.

4. Construct an angle congruent to $\angle C$.



5. Construct the bisector of your angle above.

6. Draw a segment of any length. Construct an equilateral triangle with the segment as a side.

7. Construct an equilateral triangle of any size. Use it to construct a parallelogram with one angle 60° .

8. Construct an equilateral triangle of any size. In your equilateral triangle, construct an altitude.

9. Construct an angle of 90° , then bisect it to construct an angle of 45° .

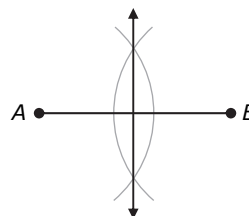
10. Draw a circle of any radius. Construct a regular hexagon inscribed in your circle.

11. Draw a large acute triangle. Construct the circumcenter of the triangle.

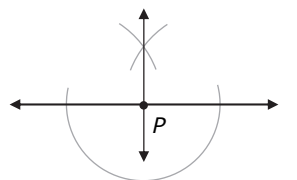
12. Draw a circle of any radius. Take a point anywhere on your circle. Construct a tangent to the circle at the point.

13. Which diagram shows the construction of a perpendicular bisector?

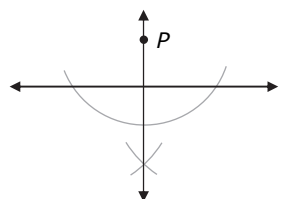
A)



B)

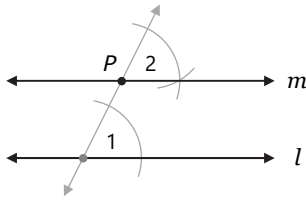


C)



D) None of the above

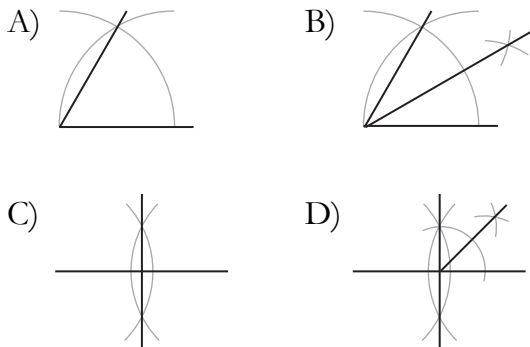
14. The diagram shows the construction of line m parallel to line l and passing through point P not on l .



The following statement justifies this construction. Fill in the blank.

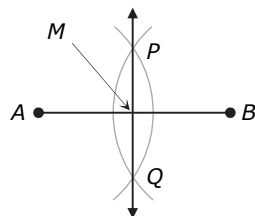
If two lines are cut by a transversal and a pair of _____ are congruent, then the lines are parallel.

15. Which diagram shows the construction of a 45° angle?



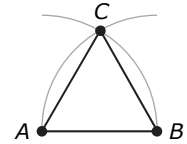
16. The diagram shows the construction of the perpendicular bisector and midpoint of \overline{AB} . Which statement is not true?

- A) $\overline{AM} \cong \overline{MB}$
 B) $\overline{PM} \cong \overline{MQ}$
 C) $\overline{AP} \cong \overline{PB}$
 D) $\overline{AB} \cong \overline{PQ}$



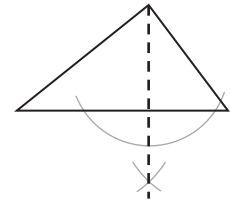
17. The diagram shows the construction of an equilateral triangle. Which statement justifies justify this construction?

- A) $\angle A \cong \angle B \cong \angle C$
 B) $AB = BC = AC$
 C) $AB + BC > AC$



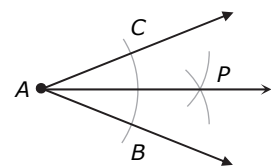
18. In the diagram of a construction, what type of segment is the dashed segment?

- A) median
 B) altitude
 C) angle bisector
 D) perpendicular bisector



19. The diagram shows the construction of an angle bisector. This construction can be justified by proving $\triangle ACP \cong \triangle ABP$. Which congruence criterion proves that the two triangles are congruent?

- A) SSS
 B) SAS
 C) ASA
 D) AAS



20. Which point of concurrency can be constructed by constructing the bisector of each angle of a triangle and locating the point of intersection?

- A) circumcenter B) incenter
 C) centroid D) orthocenter