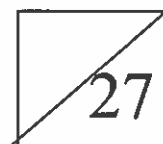


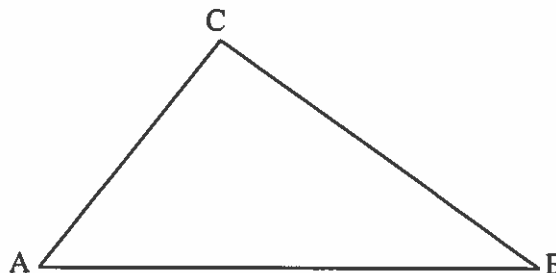
Name _____ Date _____ Score _____



Geometry Unit 1 Assessment 1 Constructions

G.CO.1 (1 point)

1. Tom was asked to construct altitude \overline{CD} in the given oblique triangle.



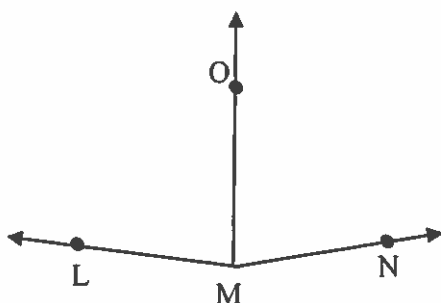
Which of the following is true:

- i. \overline{CD} is perpendicular to \overline{AB} .
- ii. \overline{CD} is the median to \overline{AB} .
- iii. \overline{CD} intersects \overline{AB} at a right angle.

- A. i, ii and iii B. ii and iii C. i and iii D. ii only

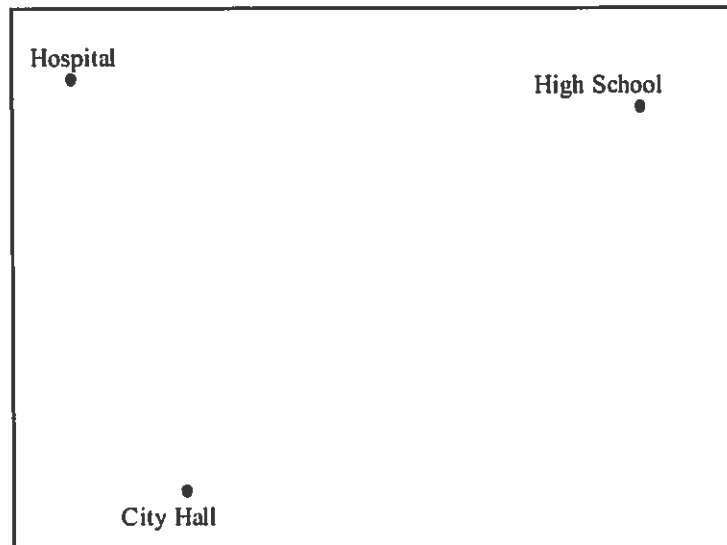
G.CO.1 2 points

2. In the figure below, \overline{MO} bisects $\angle LMN$, $m\angle LMO = 6x - 40$, and $m\angle NMO = x + 65$. Solve for x and find $m\angle LMN$. Show all work. (BCR-3)



G.CO.12 (4 points)

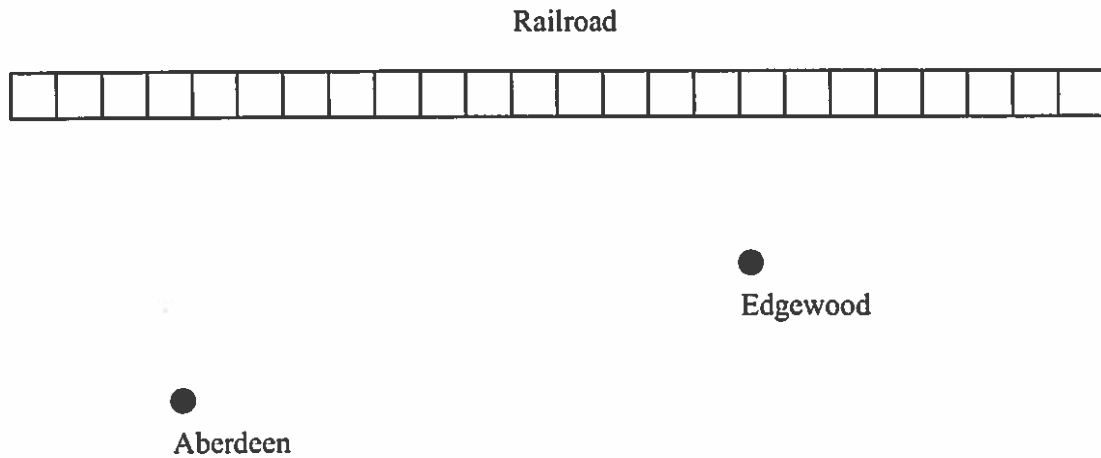
3. A diagram of Rockville is shown below. The people of Rockville want a new bus station built equidistant from the hospital, the city hall, and the high school.



- Use a construction to locate the new bus station on the diagram above.
- Justify your answer by using appropriate tools.

G.CO.12 (3 points)

4. A railroad company wants to place a commuter station next to the tracks and an equal distance from Aberdeen and Edgewood, shown below.



- Construct the location of the commuter station.
- Justify your construction by using appropriate tools.

G.CO.12 (2 points)

5. Construct segment \overline{EF} with $EF = \frac{1}{2} (AB + CD)$.

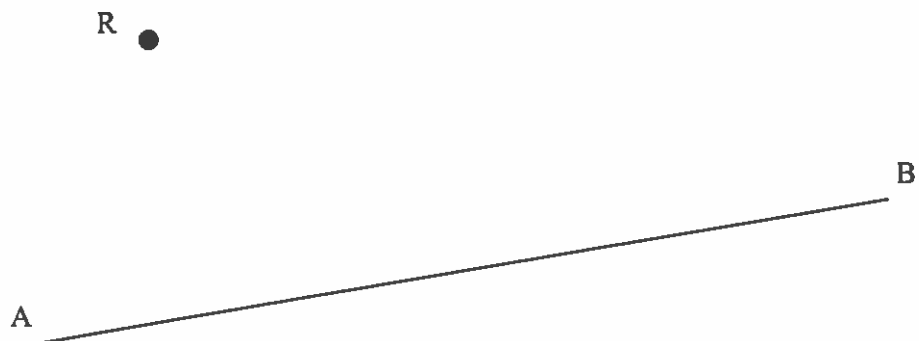
A _____ B

C _____ D

E _____

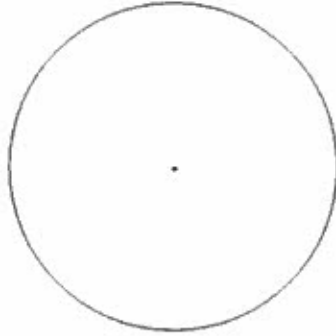
G.CO.12 (2 points)

6. Jean has a row of pine trees that are planted in a straight line segment. She wants to plant a row of roses in a line that is parallel to the line segment of trees. If \overline{AB} represents the location of the trees and R represents the first rose bush, construction the line segment that would represent the row of roses.



G.CO.13 (4 points)

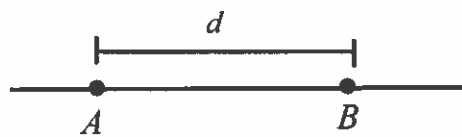
7. Construct an equilateral triangle inscribed in the given circle.



Explain the steps of your construction.

G.CO.13 (1 point)

8. Jill is constructing an equilateral triangle with P and R as two of the vertices. She is going to use a compass to draw circles around P and R. What should the radius of the circles be?



- A. $3d$ B. d C. $\frac{d}{3}$ D. $\frac{2}{d}$

G.CO.1 (1 point)

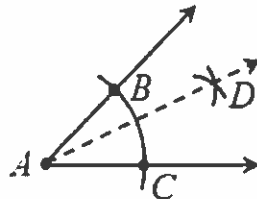
9. In $\triangle ABC$, \overline{BD} is the perpendicular bisector of \overline{AC} and D lies on \overline{AC} . Which statement(s) must be true?

- i. $\triangle ABC$ is equilateral
- ii. $\triangle ABD \cong \triangle CBD$
- iii. \overline{BD} is the bisector of $\angle ABC$

A. i only B. ii only C. i and ii D. ii and iii only

G.CO.12 (1 point)

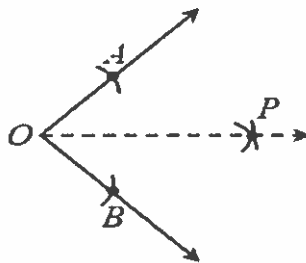
10. What is the first step in constructing the angle bisector of angle A?



- A. Draw ray \overline{AD} .
- B. Draw a line segment connecting points B and C.
- C. Draw equal arcs from points B and C.
- D. Draw an arc from point A that intersects the sides of the angle at B and C.

G.CO.12 (1 point)

11. What is the first step in constructing the angle bisector of angle A?



- i. $OA = OB$
- ii. $AB = AP$
- iii. $AP = BP$

A. i only B. ii only C. i and iii only D. ii and iii only

A-APR.A.1 1 point

12. Simplify: $3(x^2 - 2) + 8x^2 + 6x + 12$.

A. $11x^2 + 6x + 6$

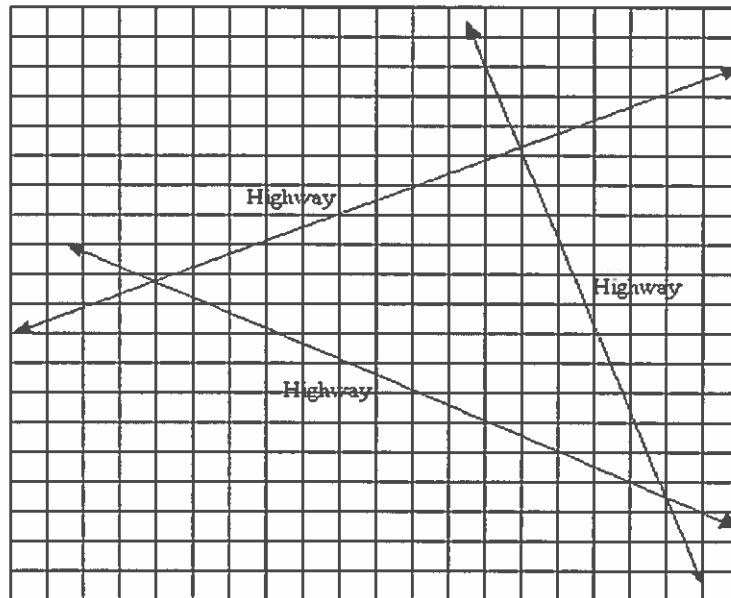
B. $11x^2 + 6x + 18$

C. $17x^2 + 6$

D. $17x^2 + 6x + 18$

G.CO.12 (4 points)

13. A ranch is bordered by three highways. The ranch owners want to build their house the same distance from each highway.



- Construct and label the location of the ranch house on the grid above.
- Justify why this is the location for their ranch house by using appropriate tools.
