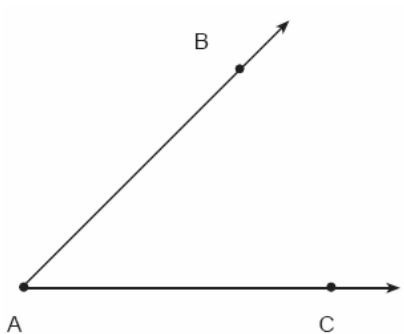


NAME: \_\_\_\_\_

1. 060022a, P.I. G.G.17

Using only a ruler and compass, construct the bisector of angle  $BAC$  in the accompanying diagram.



3. 060435a, P.I. G.G.18

Using only a compass and a straightedge, construct the perpendicular bisector of  $\overline{AB}$  and label it  $c$ . [Leave all construction marks.]



2. 060734a, P.I. G.G.18

Using a compass and straightedge, construct the perpendicular bisector of  $\overline{AB}$  shown below. Show all construction marks.



4. 080835a, P.I. G.G.19

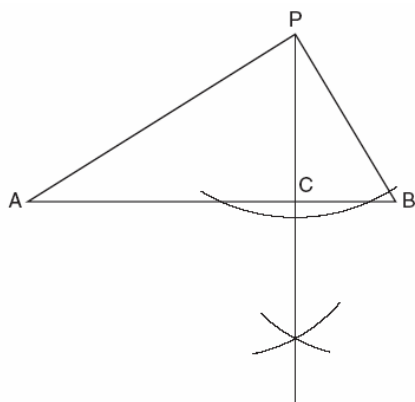
Using a compass and straightedge, construct the line that is perpendicular to  $\overline{AB}$  and that passes through point  $P$ . Show all construction marks.



NAME: \_\_\_\_\_

5. 010420a, P.I. G.G.19

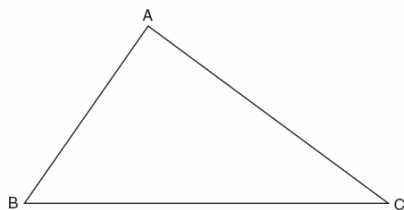
In the accompanying diagram of a construction, what does  $\overline{PC}$  represent?



- [A] the perpendicular bisector of  $\overline{AB}$
- [B] an altitude drawn to  $\overline{AB}$
- [C] the bisector of  $\angle APB$
- [D] a median drawn to  $\overline{AB}$

6. 060325a

On the accompanying diagram of  $\triangle ABC$ , use a compass and a straightedge to construct a median from  $A$  to  $\overline{BC}$ .



7. 010225a

Construct a triangle with sides of lengths  $a$ ,  $b$ , and  $c$ , as shown below. Be sure the longest side of your triangle lies on  $\overline{PQ}$  and that point  $P$  is one of the triangle's vertices. [Show all arcs necessary for a valid construction.]

$a$  \_\_\_\_\_  
 $b$  \_\_\_\_\_  
 $c$  \_\_\_\_\_



[2] A correct construction is drawn to find the midpoint of  $\overline{BC}$ , showing both sets of arcs and a line connecting A with the midpoint.

[1] A correct construction is drawn to find the midpoint of  $\overline{BC}$ , but the median is not drawn.

or [1] The construction is appropriate, but a compass and a straightedge are not used.

[0] No construction arcs are shown.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an

[1] obviously incorrect procedure.

[2] A correct construction is drawn, showing the arcs intersecting above and below  $\overline{AB}$ , and the perpendicular line is drawn.

[1] All of the construction arcs are drawn, but the perpendicular line is not drawn.

[0] A drawing that is not an appropriate construction is shown.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an

[2] obviously incorrect procedure.

[2] A correct construction is drawn, showing the arcs intersecting above and below  $\overline{AB}$ , and line  $c$  is drawn.

[1] A correct construction is drawn, but line c is not labeled.

[0] A drawing that is not a construction is shown with arc marks sketched.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an

[3] obviously incorrect procedure.

[2] A correct construction is drawn, showing all necessary arcs.

[1] All of the construction arcs are drawn, but the perpendicular line is not drawn.

or [1] A line perpendicular to  $\overrightarrow{AB}$  is constructed correctly, but it does not pass through point  $P$ .

[0] A drawing that is not an appropriate construction is shown.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an

[4] obviously incorrect procedure.

[5] B

[2] A correct construction is drawn to find the midpoint of  $\overline{BC}$ , showing both sets of arcs and a line connecting A with the midpoint.

[1] A correct construction is drawn to find the midpoint of  $\overline{BC}$ , but the median is not drawn.

or [1] The construction is appropriate, but a compass and a straightedge are not used.

[0] No construction arcs are shown.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an

[6] obviously incorrect procedure.

[2] A correct triangle with the longest side on  $\overline{PQ}$  and a vertex at P is drawn, and three appropriate arcs are shown.

[1] A correct triangle is constructed on  $\overline{PQ}$ , but P is not a vertex.

or [1] A correct triangle is constructed with no sides on  $\overline{PQ}$ .

[0] A triangle that is not congruent to the correct solution or a triangle with less than three arcs is shown.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an

[7] obviously incorrect procedure.