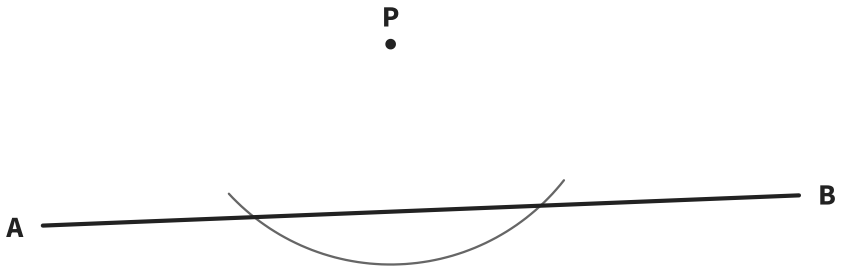
Constructing a perpendicular through a point

1

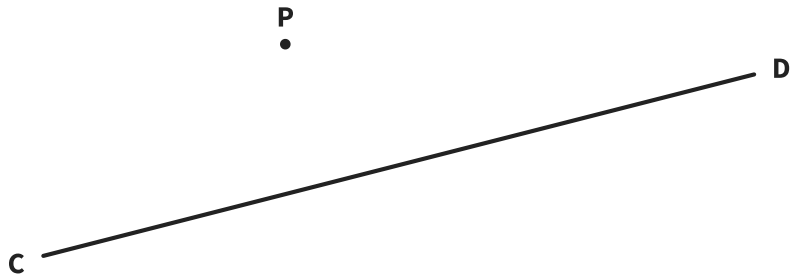
The arc from P is drawn. Keep the same width.

Construct the perpendicular from P to the line AB. Leave your arcs showing.



2

Construct the perpendicular from P to the line CD. Leave your arcs showing.



3 *Notice the change!*

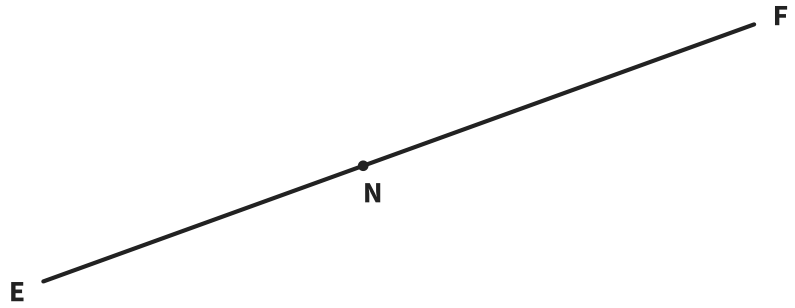
The two marks either side of M are drawn.

Construct the perpendicular to the line AB at the point M on the line.
Leave your arcs showing.



4

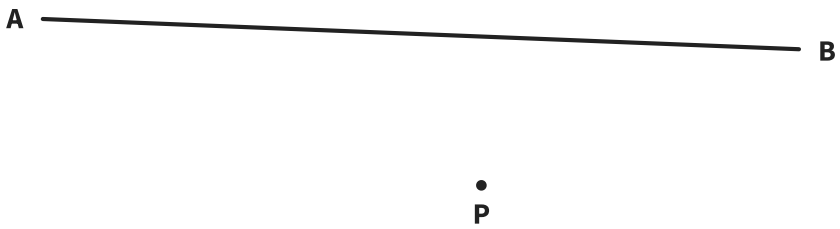
Construct the perpendicular to the line EF at the point N on the line.
Leave your arcs showing.



Constructing a perpendicular through a point

5

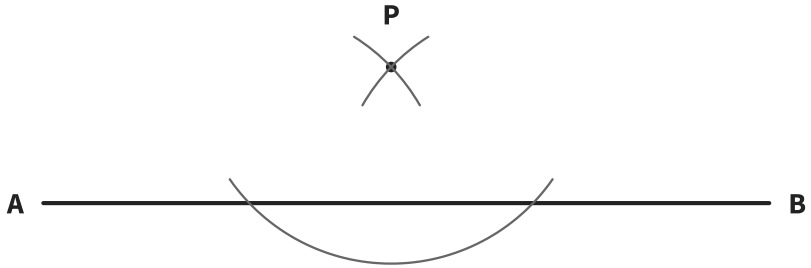
Construct the perpendicular from P to the line AB. Then check the angle with a protractor.



Angle = _____

6

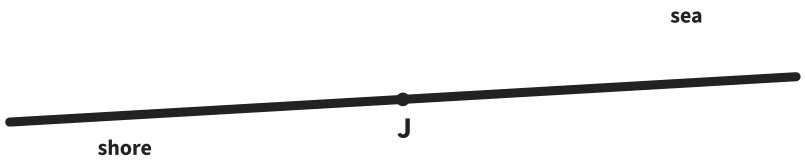
Ezra drew the arc from P, then arcs from both crossings above the line. Explain what went wrong. Construct the perpendicular from P.



Answer _____

7

A jetty will be built out into the sea from J, at right angles to the straight shore. Construct the line of the jetty. Leave your arcs showing.



8

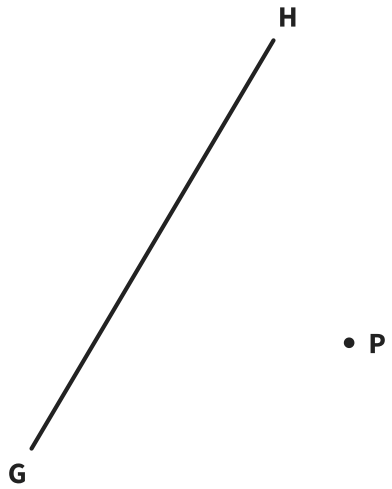
A garden tap is at T. A pipe will run from the tap to the straight wall by the shortest route. Construct the route of the pipe.



Constructing a perpendicular through a point *further practice*

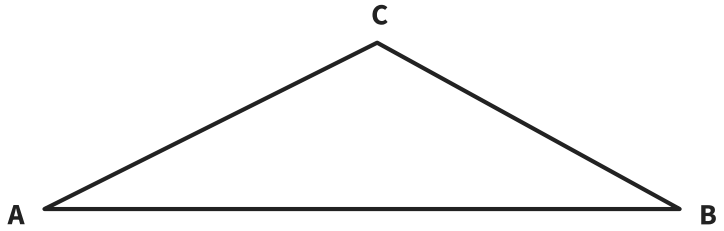
9

Construct the perpendicular from P to the line GH. Leave your arcs showing.



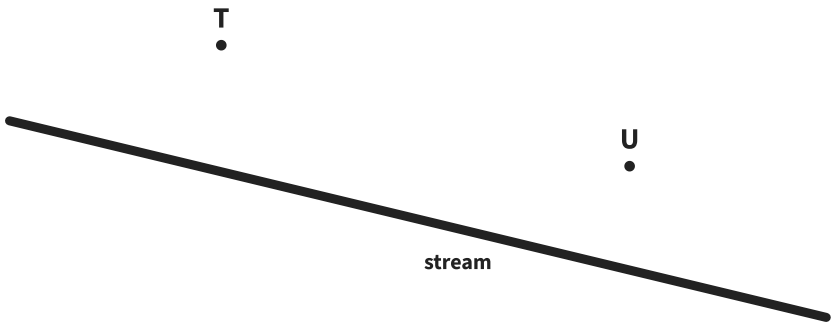
10

Construct the perpendicular from C to the side AB. It shows the height of triangle ABC. Leave your arcs showing.



11

Tents are pitched at T and U beside a straight stream. Construct the shortest path from each tent to the stream. Which tent is nearer to the stream?



Nearer tent: _____

12

Two straight fences KA and KB meet at the corner K. A sprinkler is at S. Construct the shortest path from S to each fence. Which fence is nearer to the sprinkler?



Nearer fence: _____

Constructing a perpendicular through a point *further practice*

13

A square patio ABCD will have AB as one side. Construct the perpendicular to the line at A. Use your compasses to mark D on it, with AD = AB, then complete the square.



14

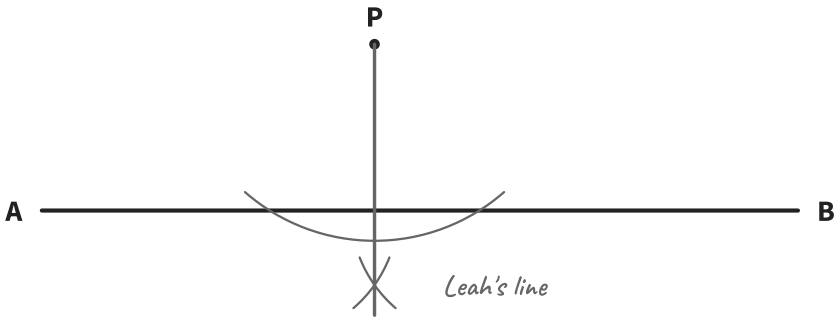
Construct the perpendicular from P to AB, and the perpendicular to AB at Q. What do you notice about the two lines you have drawn?



Answer _____

15

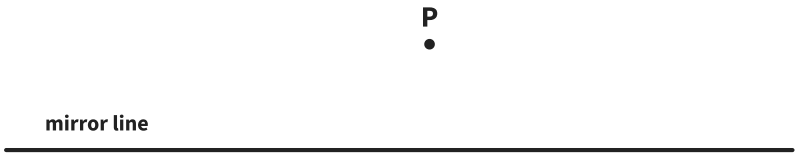
Leah made her compasses smaller for the two arcs below the line, but kept them the same for both. Is her line the perpendicular from P? Explain.



Answer _____

16

Construct the perpendicular from P to the mirror line, keeping the same width throughout. Mark P′, the reflection of P. Explain why P′ is where your arcs below the line cross.



Answer _____