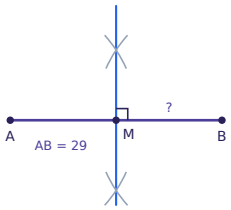
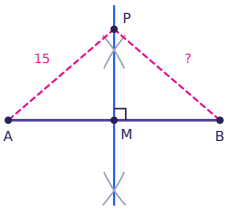
Constructions: Bisectors, Copies & Inscribed Polygons · 1

The perpendicular bisector of AB meets AB at M. AB = 29. Find MB.



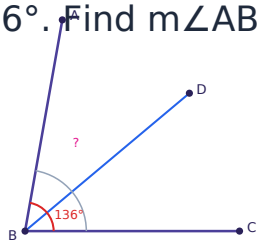
Constructions: Bisectors, Copies & Inscribed Polygons · 2

P is on the perpendicular bisector of AB. PA = 15. Find PB.



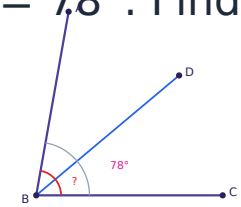
Constructions: Bisectors, Copies & Inscribed Polygons · 3

BD bisects ∠ABC, and m∠ABC = 136°. Find m∠ABD.



Constructions: Bisectors, Copies & Inscribed Polygons · 4

BD bisects ∠ABC, and m∠DBC = 78°. Find m∠ABC.



Constructions: Bisectors, Copies & Inscribed Polygons · 5

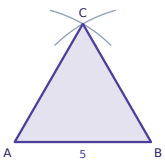
Which construction do these steps make? Set the compass to the length of AB. Draw an arc with the point on A, then an arc with the point on B, using the same width. Connect A and B to the point where the two arcs cross. A) a copy of a segment B) the perpendicular bisector of a segment C) a copy of an angle D) an equilateral triangle

Constructions: Bisectors, Copies & Inscribed Polygons · 6

Segment AB is 3 cm long. It is copied 2 times end to end along a ray starting at C, to make segment CD. How long is CD?

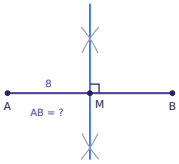
Constructions: Bisectors, Copies & Inscribed Polygons · 7

An equilateral triangle ABC is constructed on AB = 5 with a compass. Find m∠CAB.



Constructions: Bisectors, Copies & Inscribed Polygons · 8

Line ℓ is the perpendicular bisector of AB and meets it at M. AM = 8. Find AB.



Constructions: Bisectors, Copies & Inscribed Polygons · 2

ANSWER

15

Constructions: Bisectors, Copies & Inscribed Polygons · 1

ANSWER

14.5

Constructions: Bisectors, Copies & Inscribed Polygons · 4

ANSWER

156

Constructions: Bisectors, Copies & Inscribed Polygons · 3

ANSWER

68

Constructions: Bisectors, Copies & Inscribed Polygons · 6

ANSWER

6

Constructions: Bisectors, Copies & Inscribed Polygons · 5

ANSWER

D

Constructions: Bisectors, Copies & Inscribed Polygons · 8

ANSWER

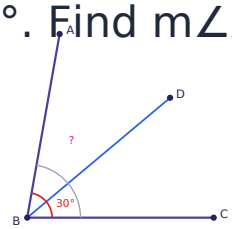
16

Constructions: Bisectors, Copies & Inscribed Polygons · 7

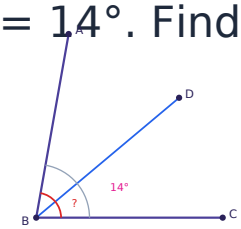
ANSWER

60

BD bisects ∠ABC, and m∠ABC = 30°. Find m∠ABD.



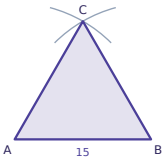
BD bisects ∠ABC, and m∠DBC = 14°. Find m∠ABC.



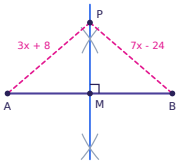
Which construction do these steps make? Set the compass to the length of AB. Draw an arc with the point on A, then an arc with the point on B, using the same width. Connect A and B to the point where the two arcs cross. A) the bisector of an angle B) a copy of a segment C) a copy of an angle D) an equilateral triangle

Segment AB is 5 cm long. It is copied 3 times end to end along a ray starting at C, to make segment CD. How long is CD?

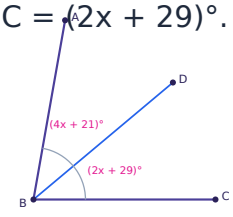
An equilateral triangle ABC is constructed on AB = 15 with a compass. Find m∠CAB.



P is on the perpendicular bisector of AB. PA = 3x + 8 and PB = 7x - 24. Find x.



BD bisects ∠ABC. m∠ABD = (4x + 21)° and m∠DBC = (2x + 29)°. Find x.



Which construction do these steps make? Draw a ray starting at point C. Open the compass to the length of AB. Put the compass point on C and draw an arc that crosses the ray at D. A) a copy of a segment B) a copy of an angle C) a regular hexagon inscribed in a circle D) an equilateral triangle

Constructions: Bisectors, Copies & Inscribed Polygons · 10

ANSWER

28

Constructions: Bisectors, Copies & Inscribed Polygons · 9

ANSWER

15

Constructions: Bisectors, Copies & Inscribed Polygons · 12

ANSWER

15

Constructions: Bisectors, Copies & Inscribed Polygons · 11

ANSWER

D

Constructions: Bisectors, Copies & Inscribed Polygons · 14

ANSWER

8

Constructions: Bisectors, Copies & Inscribed Polygons · 13

ANSWER

60

Constructions: Bisectors, Copies & Inscribed Polygons · 16

ANSWER

A

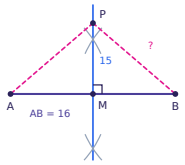
Constructions: Bisectors, Copies & Inscribed Polygons · 15

ANSWER

4

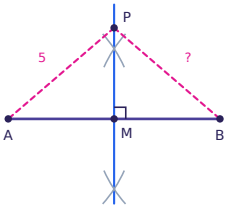
To construct the perpendicular bisector of AB = 31 cm, the compass must be opened to more than half of AB. What is the smallest whole number of centimeters that works?

P is on the perpendicular bisector of AB, which meets AB at M. AB = 16, PM = 15. Find PB.

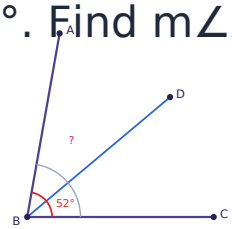


An angle of 44° is copied 2 times, each copy placed next to the last so they share a side, starting from a side of the original angle. What is the measure of the large angle made by the original and its copies together?

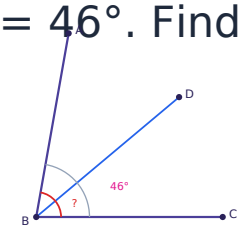
P is on the perpendicular bisector of AB. PA = 5. Find PB.



BD bisects ∠ABC, and m∠ABC = 52°. Find m∠ABD.



BD bisects ∠ABC, and m∠DBC = 46°. Find m∠ABC.



Which construction do these steps make? Set the compass to the length of AB. Draw an arc with the point on A, then an arc with the point on B, using the same width. Connect A and B to the point where the two arcs cross. A) a copy of a segment B) a copy of an angle C) an equilateral triangle D) the perpendicular bisector of a segment

Segment AB is 8 cm long. It is copied 3 times end to end along a ray starting at C, to make segment CD. How long is CD?

Constructions: Bisectors, Copies & Inscribed Polygons · 18

ANSWER

17

Constructions: Bisectors, Copies & Inscribed Polygons · 17

ANSWER

16

Constructions: Bisectors, Copies & Inscribed Polygons · 20

ANSWER

5

Constructions: Bisectors, Copies & Inscribed Polygons · 19

ANSWER

132

Constructions: Bisectors, Copies & Inscribed Polygons · 22

ANSWER

92

Constructions: Bisectors, Copies & Inscribed Polygons · 21

ANSWER

26

Constructions: Bisectors, Copies & Inscribed Polygons · 24

ANSWER

24

Constructions: Bisectors, Copies & Inscribed Polygons · 23

ANSWER

C