

Student Junior Cycle Constructions Project



Name: _____

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Constructions page

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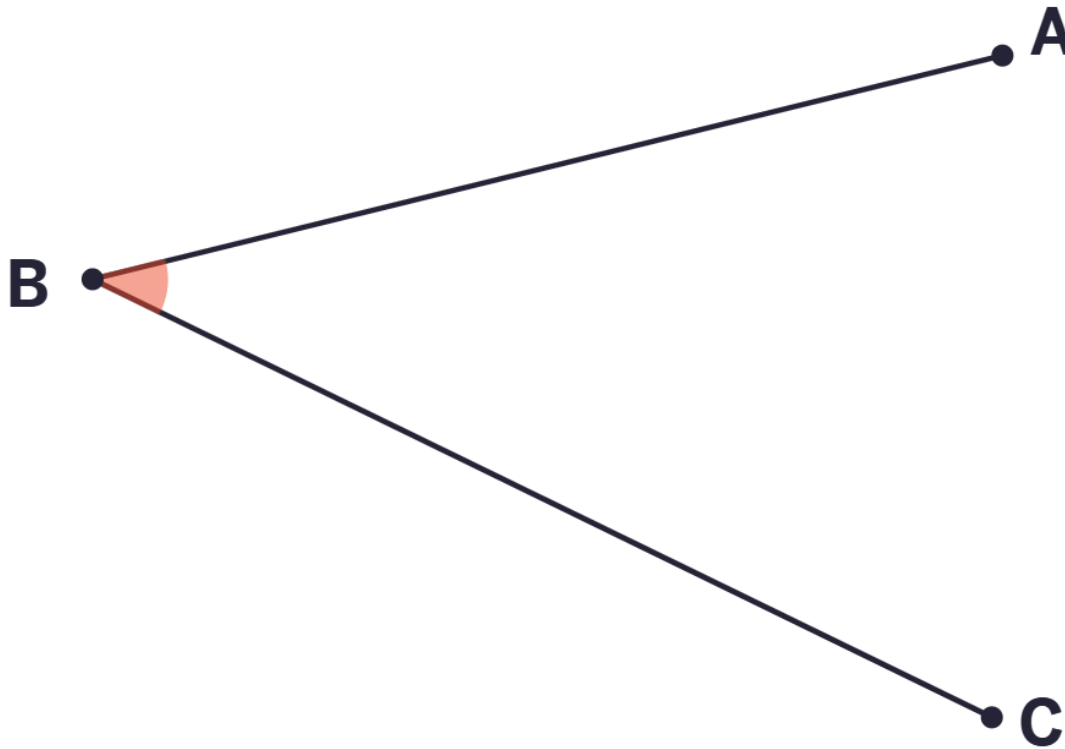
Task 1: Angle Bisector

Construct the bisector of angle ABC.



Construction Steps:

- Draw an arc from B that cuts both arms of the angle.
- With the same compass width, draw arcs from each intersection.
- Join the B to the intersection point of the arcs.



Task 2: Perpendicular Bisector

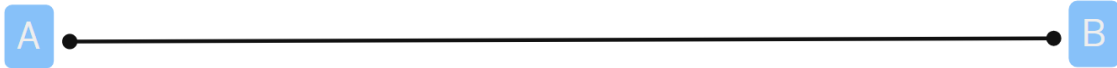
Construct the perpendicular bisector of line segment AB.



Construction Steps:

- Draw arcs from A and B with equal radius, above and below AB.
- Mark the two intersection points.
- Draw the line through both intersection points.

Space for construction:



Task 3: Perpendicular from a Point not on a Line

Construct a line perpendicular to line l through point P , where P is not on l .



Construction Steps:

- Draw an arc from P that cuts line l at two points.
- Draw arcs from these points that intersect.
- Join P to the intersection of the arcs.

Space for construction:



Task 4: Perpendicular from a Point on a Line

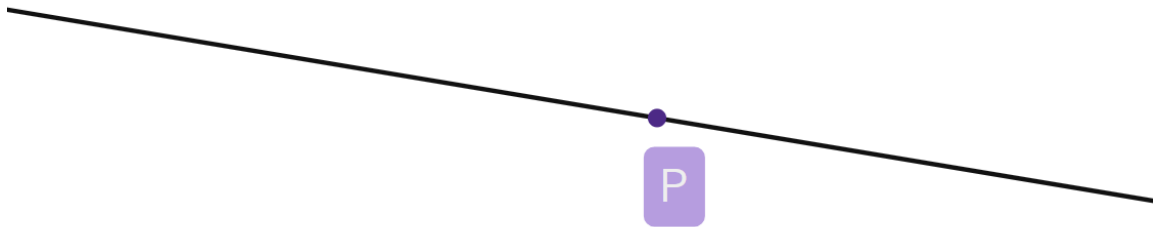
Construct a line perpendicular to line l at point P , where P lies on l .



Construction Steps:

- Draw an arc from P cutting the line at two points.
- Draw arcs from those two points to intersect above the line.
- Join P to the intersection point.

Space for construction:



Task 5: Parallel Line through a Point

Construct a line parallel to line l through point P .



Construction Steps:

- Copy an angle from a point on l to point P using arcs.
- Recreate the same angle at P .
- Draw the new line through P .

Space for construction:



Task 6: Divide a Segment into Three Equal Parts

Divide line segment AB into three equal parts.



Construction Steps:

- Draw a ray from A.
- Mark three equal steps on the ray.
- Join the last step to B and draw parallel lines through the other steps.

Space for construction:



Task 7: Divide a Segment into Five Equal Parts

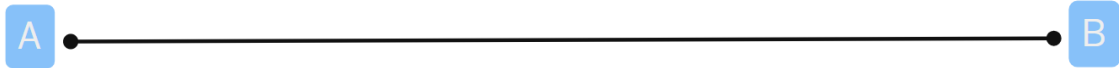
Divide line segment AB into five equal parts.



Construction Steps:

- Draw a ray from A.
- Mark five equal steps on the ray.
- Join the last step to B and draw parallels to divide AB.

Space for construction:



Task 8: Mark a Given Length on a Ray

On ray AB, mark a point C so that AC is a 8 cm.



Construction Steps:

- Open the compass to 8 cm.
- Place the compass at A and draw an arc of 8 cm cutting the ray.
- Label the point of intersection C.

Space for construction:



Task 9: Construct a 50° Angle

Construct an angle of 50° with AB as one arm.



Construction Steps:

- Draw ray AB.
- Use a protractor to measure 50° from AB.
- Draw the second arm through this mark.

Space for construction:



Task 10: Triangle – SSS

Construct a triangle with side lengths 8 cm, 12 cm, and 7 cm.



Construction Steps:

- Draw one side as the base.
- Draw arcs using the other two lengths.
- Join the intersection point of arcs to the endpoints of the base.

Space for construction:

Task 11: Triangle – SAS

Construct a triangle using two given sides and the included angle 50° .



Construction Steps:

- Draw the base.
- Construct a 50° angle at one end.
- Mark the second side on the new ray and join the endpoints.

Space for construction:

Task 12: Triangle – ASA

Construct a triangle given two angles and the included side.



Construction Steps:

- Draw the base.
- Construct both given angles at each end.
- Join the two angle arms where they meet.

Space for construction:

Task 13: Right Triangle – RHS

Construct a right-angled triangle given the hypotenuse and one other side.

Construction Steps:

- Draw the hypotenuse.
- Construct a semicircle on the hypotenuse.
- A point on the semicircle gives a right angle at that point.



Space for construction:

Task 14: Right Triangle – RSA

Construct a right-angled triangle given one side and one acute angle.



Construction Steps:

- Draw the base.
- Construct the given acute angle at one end.
- Construct a right angle at the other end.

Space for construction:

Task 15: Rectangle

Construct a rectangle given its side lengths.



Construction Steps:

- Draw the base.
- Construct right angles at both ends.
- Mark the adjacent side lengths and complete the rectangle.

Space for construction: