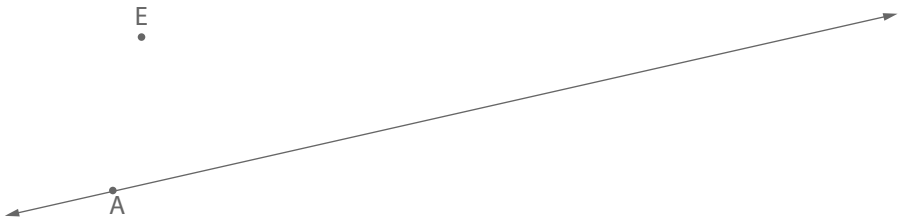
Construction

Lines and angles

1. Use a compass, pencil and ruler to answer this question.



a) Mark off point B so that AB = 8 cm.

b) Construct the perpendicular bisector of line segment AB. Label D as the midpoint of AB.

c) Measure and complete.

i) AD = _____ mm **ii)** DB = _____ cm

d) Draw CB ⊥ AB: point C is below line segment AB and CB = 30 mm.

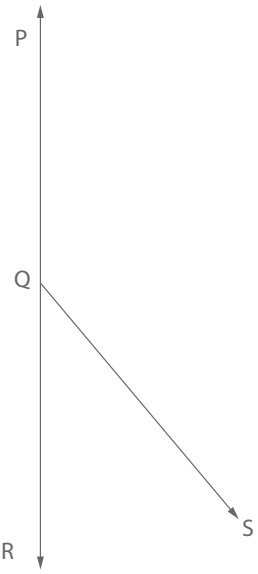
e) Construct EF ⊥ AB. Point F is on AB.

f) Write down two line segments that are parallel to each other. _____

2. a) Refer to the diagram on the right. Measure the angles with a protractor.

∠PQS = _____ ∠RQS = _____

(Did you remember the correct units?)



b) Use a compass, pencil and ruler.

i) Bisect ∠PQS. **ii)** Label the bisector QT.

iii) Bisect ∠TQS. **iv)** Label the bisector QU.

c) Use a protractor to measure and complete.

i) ∠PQT = _____ **ii)** ∠TQU = _____

iii) ∠UQS = _____

d) Do calculations to check if your constructions in Question 2b) were accurate.

_____

e) Complete.

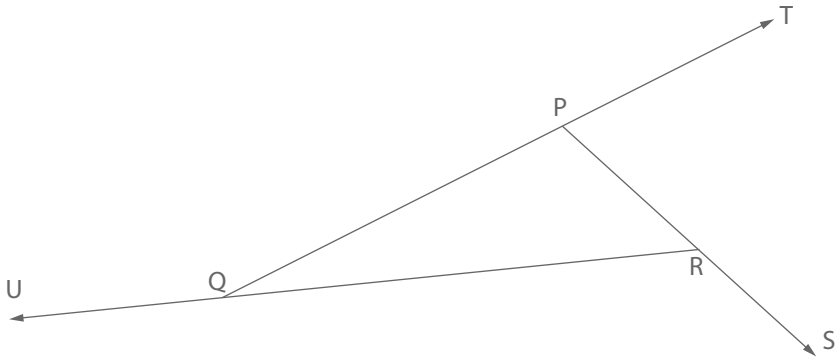
∠PQT + ∠TQU + ∠UQS + ∠SQR = _____ + _____ + _____ + _____ = _____

Conclusion: All the angles forming a straight line add up to _____.

Construction

Angles of triangles

1.



a) Measure the angles of △PQR and fill them in on the diagram.

b) Measure and fill in on the diagram: ∠TPS; ∠SRQ and ∠PQU.

c) Compare your answers in a) and b).

d) Complete.

- The sum of the interior angles of a triangle _____ .
- The exterior angle of a triangle _____ .

2. a) Construct △ABC with a = 50 mm, AB = 5 cm and ∠B = 60°.

b) Measure and write down:

∠A = _____ ∠C = _____ b = _____

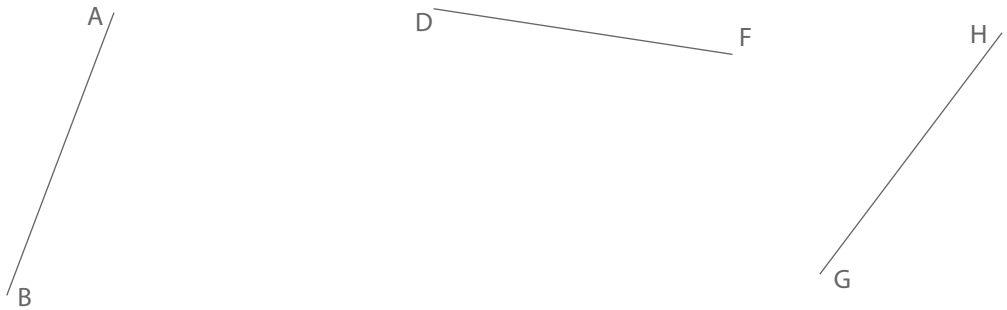
c) Complete. In an equilateral triangle, _____

3. Complete the constructions of the three triangles.

△ABC with AB = AC = 3 cm and a = 25 mm

△FDE with FD = DE = 30 mm and ∠D = 70°

△GHJ with GH = 3 cm, ∠H = 130° and ∠G = 25°



a) In each triangle, mark the equal sides and equal angles.

b) Complete. In an isosceles triangle _____ .