

RULER AND COMPASS CONSTRUCTIONS

Do not use a protractor for any of the questions on this sheet (except possibly to check your answers)

When starting a question, make sure you allow enough space for the construction.
Do not rub out the compass marks – they are the “working” for these questions.

- 1) Draw a line AB 10 cm long. Construct the perpendicular bisector of this line.
- 2) Draw a line XY 12 cm long. Mark the point P 4cm from X. Construct the perpendicular to XY at the point P.
- 3) Draw a line segment AB, and mark a point Q above the line. Construct the perpendicular from Q to AB.
- 4) Construct an equilateral triangle with sides of length 8cm
- 5) Draw an angle of any size. Construct the bisector of this angle.
- 6) Draw a circle of radius 6cm. Mark a point A on the circumference.
With the compass point on A, make an arc crossing the circle. Label this point B
With the compass point on B, make an arc crossing the circle. Label this point C
Continue around the circle, constructing points D, E and F.
What is the full name of the shape ABCDEF.
What is the size of angle ABC? angle EFC? angle ECF?
- 7) Construct angles of the following sizes:
(a) 45° [Hint: Construct an angle of 90° and bisect it]
(b) 30°
(c) 135°
(d) 15°
- 8) Construct triangle ABC with sides AB=10cm, BC=7cm and AC=10cm
Construct the locus of points equidistant from points A and B
Construct the locus of points equidistant from points A and C
Mark the point where these lines cross M
With the compass point on M, draw a circle passing through A, B and C.
(This is called the CIRCUMCIRCLE of the triangle)
- 9) Construct triangle ABC with sides AB=5cm, BC=7.5cm and AC=10cm
Construct the locus of points equidistant from lines AB and AC
Construct the locus of points equidistant from lines AB and BC
Mark the point where these lines cross M
With the compass point on M, draw a circle which just fits inside the circle, touching all three sides.
(This is called the INCIRCLE of the triangle)

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