Drawing 2D shapes

Exercise 1 (A)

For this exercise you will need blank paper, a ruler and a protractor

1 Draw a square with length:
   a 2cm
   b 4cm
   c 6cm
   d 3.5cm

2 Draw a rectangle with:
   a Length 5cm Breadth 3cm
   b Length 12cm Breadth 4cm
   c Length 7cm Breadth 6cm
   d Length 2.5cm Breadth 8.3cm

3 Draw exactly a triangle given one side and two angles
   a Side 7cm Angles 40°, 70°
   b Side 10cm Angles 60°, 50°
   c Side 11cm Angles 45°, 85°
   d Side 5.5cm Angles 25°, 90°
4 Draw a Rhombus given the following pairs of diagonals (D1 and D2)
   a D1=5cm, D2=2cm
   b D1=7cm, D2=3.5cm
   c D1=4.5cm, D2=6.5cm
   d D1=6.2cm, D2=8.8cm

Exercise 1 (B)

For this exercise you will need a ruler, protractor and a pair of compasses

1 Draw exactly a triangle with one side and two angles
   a Side 7cm Angles 40°, 70°
   b Side 10cm Angles 60°, 50°
   c Side 11cm Angles 60°, 35°
   d Side 5.5cm Angles 15°, 90°
   e Side 6.3cm Angles 42°, 38°
   f Side 7.3cm Angles 68°, 33°
   g Side 4.5cm Angles 37°, 15°
   h Side 11.3cm Angles 22°, 105°

2 Draw exactly a triangle given two sides and the included angle
   a Sides 6cm, 6cm Angle 60°
   b Sides 8cm, 7cm Angle 50°
   c Sides 8.5cm, 7.3cm Angle 55°
   d Sides 9.8cm, 5.7cm Angle 90°
   e Sides 7.7cm, 6.5cm Angle 120°
   f Sides 6.8cm, 7.3cm Angle 59°
   g Sides 5.5cm, 6.7cm Angle 100°
   h Sides 7.3cm, 6.5cm Angle 105°
3. Draw exactly a triangle given all three sides (you will need your compasses)
   a. Sides 5cm, 5cm, 5cm
   b. Sides 5cm, 6cm, 7cm
   c. Sides 8cm, 6cm, 10cm
   d. Sides 5cm, 12cm, 9cm
   e. Sides 6.6cm, 5.3cm, 7.9cm
   f. Sides 6.7cm, 7.6cm, 5.8cm
   g. Sides 8cm, 6.5cm, 10cm
   h. Sides 3.8cm, 4.9cm, 5.5cm

Exercise 1 (C)

For this exercise you will need a ruler, protractor and a pair of compasses

1. Draw exactly a triangle given two sides and non included angle
   a. Sides 5.2cm, 4.8cm Angle 45°
   b. Sides 6.1cm, 4.8cm Angle 32°
   c. Sides 7.6cm, 8.1cm Angle 68°
   d. Sides 4.9cm, 6.9cm Angle 98°
   e. Sides 3.6cm, 4.1cm Angle 107°
   f. Sides 2.9cm, 3.4cm Angle 25°
   g. Sides 9.7cm, 11.4cm Angle 59°
   h. Sides 2.1cm, 4.2cm Angle 120°
2 Draw exactly the following regular pentagons with the following distance from the centre to each vertex

a  5cm
b  6.2cm
c  5.3cm
d  4.9cm

3 Draw exactly the following regular hexagon with the following distance from the centre to each vertex

a  4.1cm
b  7.2cm
c  8.3cm
d  1.9cm

4 Draw exactly the following regular octagon with the following distance from the centre to each vertex

a  8.5cm
b  6.2cm
c  4.9cm
d  5.1cm
Exercise 2(B)

For this exercise you will need a ruler, protractor and a pair of compasses

1. Draw exactly a parallelogram with each side and two angles
   a. Sides 7cm, 3cm Angles 70°, 110°
   b. Sides 10cm, 4cm Angles 60°, 120°
   c. Sides 11cm, 6.5cm Angles 30°, 150°
   d. Sides 5.5cm, 7.2cm Angles 75°, 105°
   e. Sides 6.3cm, 2.9cm Angles 42°, 138°

2. Draw exactly a rhombus given the sides and two angles
   a. Side 5cm Angle 80°, 100°
   b. Side 6cm Angle 122°, 58°
   c. Side 7.3cm Angle 50°, 130°
   d. Side 5.1cm Angle 40°, 140°
   e. Side 2.5cm Angle 122°, 58°

3. Draw exactly a kite given two sides and two angles (you will need your compasses)
   a. Sides 3cm, 5cm Angle 40°
   b. Sides 2cm, 6cm Angle 50°
   c. Sides 4.5cm, 7.3cm Angle 70°
   d. Sides 5.1cm, 7.7cm Angle 86°
   e. Sides 7.7cm, 2.5cm Angle 122°