Stage 4 ★★
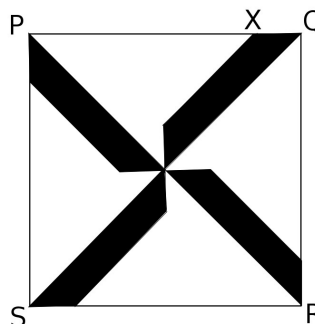**Mixed Selection 1**

1. **Quarters**
   Four congruent isosceles trapeziums are placed so that their longer parallel sides form the diagonals of a square PQRS, as shown. The point X divides PQ in the ratio 3:1.
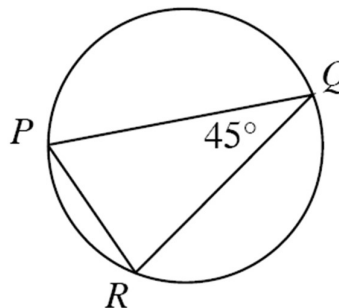
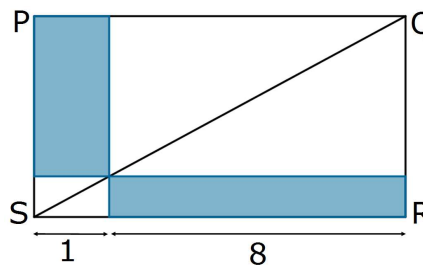   What fraction of the square is shaded?

2. **Angle to chord**
   P, Q and R are points on the circumference of a circle of radius 4cm. $\angle PQR = 45°$.
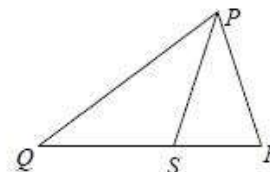
   What is the length of chord PR?

3. **Diagonal touch**
   What fraction of rectangle $PQRS$ is shaded?

4. **Isosceles reduction**
   PQR is a triangle and S is a point on QR. $QP = QR = 9$cm and $PR = PS = 6$cm.

   What is the length of SR?