Do NOT use a calculator.

- Consider rectangles on a square grid with vertices at grid points.
  Draw all possible different rectangles with area **10**.
  What are the lengths of their sides?

- Consider rectangles on a square grid with vertices at grid points.
  Draw all possible different rectangles with area **12**.
  What are the lengths of their sides?

- A rectangle has area **20** and one side of length **2√2**.
  What is the length of the other side?

- Answer the same question for a rectangle that has:
  - area **15** and one side **√5**
  - area **50** and one side **5√2**
  - area **45** and one side **3√5**
  - area **80** and one side **2√10**

- The sides of an isosceles triangle are of length **√65**, **√65** and **3√2**. Find the area of the triangle.

- The lengths of the sides of a convex kite are **2√5** and **√10**.
  One diagonal is of length **2√2**. Find the area of the kite.

- The lengths of the sides of a convex kite are **3√5** and **√17**.
  One diagonal is of length **3√2**. Find the area of the kite.

1—Indices and surds   **STUDENT RESOURCE**

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