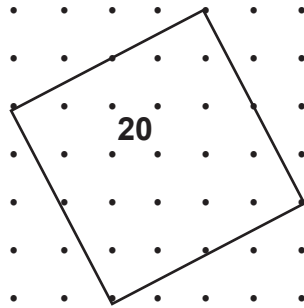


## Pythagoras on the Geoboard

### Activity 2. Determine the length of the sides of a tilted square.

If we know the area  $A$  of a tilted square on the geoboard, we can find the length of its side. Remember that to obtain the area of a square is to multiply the length of the side by itself, that is  $A = s \times s$  or  $A = s^2$ . For example, let us find the length of the side of a square of area 20. We need then to find a number that multiplied by itself is 20. We can see that this number has to be greater than 4, because  $4 \times 4 = 16$ . We also know it has to be smaller than 5 because  $5 \times 5 = 25$ . Calculators have a key to compute the square root of a number. Using the calculator we see that  $\sqrt{20}$  is about 4.47.



Exercise. Use a calculator to determine the lengths of the sides of the tilted squares in the previous activity.

### Activity 3. Distance between any two points on the geoboard.

The distance between any two points on the geoboard can be computed by constructing a square that has that segment as its side. You can find the area of the square. The length of the side will be the square root of the area. Find the lengths of the segments shown.

