## Calculating With Bounds

Steve measures the length and width of a rectangle as 600 mm and 400 mm, both correct to 10 mm.

(a) Find the upper and lower bounds of the **perimeter** of the rectangle.

(b) Find the upper and lower bounds of the **area** of the rectangle.

(a) UB = 2020 mm
LB = 1980 mm

(b) UB = $245025\ mm^2$
LB = $235025\ mm^2$

Milly measures the length and width of a field as 25 m and 20 m, both to the nearest m.

(a) Find the upper and lower bounds of the **perimeter** of the field.

(b) Find the upper and lower bounds of the **area** of the field.

(a) UB = 92m
LB = 88m

(b) UB = $522.75\ m^2$
LB = $477.75\ m^2$

Ola's weight is 47 kg, correct to the nearest kg. Tia's weight is 55 kg, also correct to the nearest kg.

(a) Find the upper and lower bounds of the **total weight** of the two girls.

(b) Find the upper and lower bounds of the **difference** in their weights.

(a) UB = 103kg
LB = 101kg

(b) UB = 9kg
LB = 7kg

A car travels 240 km in 4 hours, both measured to the nearest unit. Find the upper and lower bounds of the car's speed.

UB = 68.7 km/h (1dp)
LB = 53.2 km/h (1dp)

A rock has a mass of 5 kg to the nearest 0.5 kg, and a volume of 2.1 $m^3$ to 1 decimal place. Find the upper and lower bounds of the density of the rock.

UB = 2.56 $kg/m^3$ (2dp)
LB = 2.21 $kg/m^3$ (2dp)

A cuboid has dimensions of 8 cm by 10 cm by 12 cm, all measured to the nearest cm. Find the upper and lower bounds of the volume of the cuboid.

UB = $1115.625\ cm^3$
LB = $819.375\ cm^3$