

Upper and Lower Bounds

1. The following numbers have been rounded to the nearest integer. Give their lower and upper bounds.
a. 4 b. 10 c. 17 d. 108 e. 299 f. 500
3.5 & 4.5 9.5 & 10.5 16.5 & 17.5 107.5 & 108.5 298.5 & 299.5 499.5 & 500.5
2. The following numbers have been rounded to the nearest ten. Give their lower and upper bounds.
a. 20 b. 90 c. 170 d. 390 e. 1000 f. 1990
15 & 25 85 & 95 165 & 175 385 & 395 995 & 1005 1985 & 1995
3. The following numbers have been rounded to 1 decimal place. Give their lower and upper bounds.
a. 3.4 b. 6.2 c. 8.1 d. 20.0 e. 84.5 f. 100.9
3.35 & 3.45 6.15 & 6.25 8.05 & 8.15 19.95 & 20.05 84.45 & 84.55 100.85 & 100.95
4. The following numbers have all been rounded to different levels of accuracy. Give their lower and upper bounds.
a. 44 (rounded to the nearest whole number) 43.5 and 44.5
b. 21.6 (rounded to 1 decimal place) 21.55 and 21.65
c. 120 (rounded to 2 significant figures) 115 and 125
d. 400 (rounded to the nearest hundred) 350 and 450
e. 5.61 (rounded to 2 decimal places) 5.605 and 5.615
5. The sides of this rectangle have all been measured to the nearest cm.
a. Find the lower and upper bounds of its perimeter. 16cm and 20cm
b. Find the lower and upper bounds of its area. 13.75cm² and 22.75cm²

