

Upper and Lower Bounds

Literacy

Upper Bound

Lower Bound

Significant

Figures (s.f.)

Research

Look up the world record football transfer fee. Which player was it for, and how many significant figures is your answer to?

Memory

To calculate the upper bound of something, you don't **always** use the upper bounds of each measurement!

Skill Practice

Question 1: Complete the table with the lower and upper bounds

	Value	Rounded To	Lower Bound	Upper Bound
Ex.	42	2 s.f.	41.5	42.5
1	37.28	4 s.f.		
2	2000	1.s.f		
3	-5.6	2 s.f.		

Question 2: A triangle has base, $b = 3\text{cm}$ and height, $h = 4\text{cm}$, both correct to 1 significant figure. Find the upper **and** lower bounds for the area of the triangle.

Question 3: Mo Farah can run 1500m (nearest m) in 209 seconds (nearest second). Using $\text{Speed} = \frac{\text{Distance}}{\text{Time}}$, find the **upper** bound of his speed in m/s. Give your answer to 4 significant figures.

Stretch!

$$X = 32.1 \text{ (3 s.f.)}$$

$$Y = 2.3 \text{ (2 s.f.)}$$

$$Z = 20 \text{ (2 s.f.)}$$

Find the upper **and** lower bounds of the expression:

$$\frac{X - Y}{2Z}$$

Round your answers to 3 significant figures!