

Measures and Bounds Revision

1) Convert into the units given in brackets:

- a) 5 gallons (litres) b) 12oz (g) c) 0.003km (cm)
d) 5m/s (km/hr) e) 27 km/hr (m/s) f) 8m/s (mph)

2) Round the following as indicated in brackets

- a) 36278 (2sf) b) 0.00050892 (3sf) c) 4.59823 (3sf)

3) Write down the error interval for the following

- a) $x = 2.3$ (1dp) b) $y = 20,000$ (3sf) c) $m = 400$ (1sf)
d) $x = 4.56$ truncated to 3sf e) $t = 65$ rounded to the nearest 5

4) The following quantities have been rounded as indicated:

$$x = 2.3 \text{ (2sf)} \qquad y = 100 \text{ (1sf)} \qquad z = 50 \text{ (2sf)}$$

Find the maximum values for:

- a) $x + y$ b) $\frac{y}{z}$ c) $\frac{y}{z-x}$

5) A cuboid measures 8cm by 4cm by 3cm and is made of a material with density of 60g/cm³. Find its mass in pounds

6) I run for 20km at 8km/hr and then for 40 minutes at 10km/hr. What is my average speed for the whole journey? Write your answer as an exact fraction.

7) A cube of weight 8N is resting on a flat surface and exerts a pressure of 50Pa. Find the side length of the cube.

8) A bridge has a maximum safe load of 5000kg (2sf) and is loaded with people who have a mass of 80kg (1sf). What is the maximum safe number of people it can take?

9) A rectangle measures 30cm (2sf) by 40cm (1sf). Find the upper bound of its perimeter

10) A triangle has area of 50cm² (1sf), if its base is 6.0cm (2sf), find the lower bound of its height.

Ans 1a) 22.5 b) 360 c) 300 d) 18 e) 7.5 f) 18 2a) 36000 b) 0.000509 c) 4.60 3a) $2.25 \leq x < 2.35$
b) $19950 \leq y < 20050$ c) $350 \leq x < 450$ d) $4.56 \leq x < 4.57$ e) $62.5 \leq t < 67.5$ 4a) 152.35 b) 3.03
c) 3.18 5) 1.75lbs (3sf) 6) $8\frac{6}{13}$ km/hr 7) 40cm 8) 58 9) 151cm 10) 14.9cm (3sf)