

ESTIMATION – PRACTICE QUESTIONS
NON-CALCULATOR



1.
Estimate 50.1×1.98

2.
Estimate 102×3.95

3.
Estimate 38×5.04

4.
Estimate 988×62

5.
Estimate $2,020 \times 4.94$

6.
Estimate 718×33

7.

Estimate $154 \div 29$

8.

Estimate $24.4 \div 7.7$

9.

Estimate $89 \div 8.76$

10.

Estimate $812 \div 38$

11.

Estimate $3,107 \div 288$

12.

Estimate $9,855 \div 19$

13.

$$\text{Estimate } \frac{1.88 \times 81}{38}$$

14.

$$\text{Estimate } \frac{22 \times 9.14}{54}$$

15.

$$\text{Estimate } \frac{444}{0.89 \times 54}$$

16.

$$\text{Estimate } \frac{49 \times 31}{1.79 \times 11}$$

17.

Estimate $\sqrt{103}$

18.

Estimate $\sqrt{66}$

19.

Estimate $\sqrt{23}$

20.

Estimate $\sqrt[3]{28}$

21.

Estimate $\sqrt[3]{130}$

22.

Estimate $\sqrt[3]{981}$

23.

Estimate $\sqrt{18 \times 4.11}$

24.

Estimate $\frac{\sqrt{50 \times 108}}{69}$

25.

Estimate $\sqrt{\frac{310}{0.52 \times 4.3}}$

26.

Estimate $\sqrt[3]{\frac{290}{5.2 \times 9.84}}$

27.

A town contains 20,611 houses.

Each house has on average 3.25 people living in them.

(a) Work out an estimate for the total population of the town.

(b) Is your answer an overestimate or an underestimate? Explain your reasoning.

28.

Adrian bought 195 pencils.

The pencils cost 9p each.

(a) Work out an estimate for the total cost of the pencils, in pounds.

(b) Is your answer an overestimate or an underestimate? Explain your reasoning.

29.

Brianna makes bracelets.

Each bracelet requires 22 centimetres of string.

Brianna has 9.9 metres of string.

(a) Work out an estimate for the number of bracelets Brianna can make.

(b) Is your answer an overestimate or an underestimate? Explain your reasoning.

30.

Cal earns £9.75 per hour.

Cal works 37.5 hours each week.

(a) Work out an estimate for how much Cal earns each month.

(b) Is your answer an overestimate or an underestimate? Explain your reasoning.

31.

Darren is filling plant pots with soil.

Darren bought a bag of soil which contains 28 litres of soil.

Each plant pot can hold 3,150 millilitres of soil.

(a) Work out an estimate for the number of plant pots Darren can fill.

(b) Is your answer an overestimate or an underestimate? Explain your reasoning.

32.

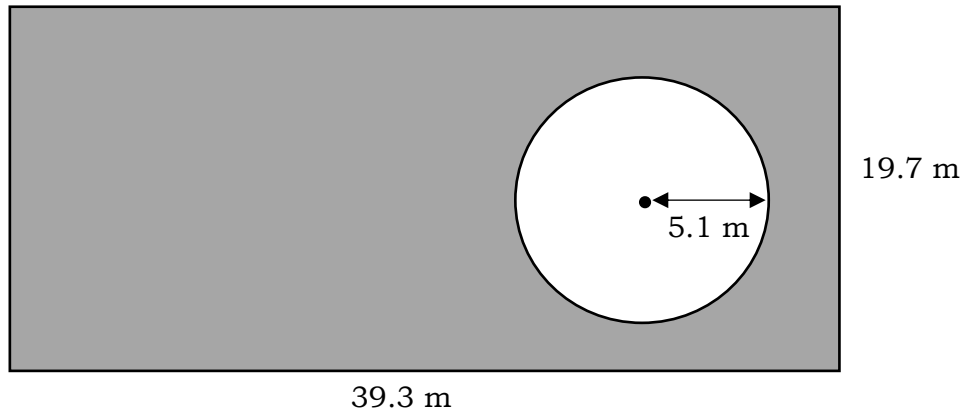
(a) Show, using estimation, that $\frac{3.9+\sqrt{97}}{2.2} < 7$

(b) Show, using estimation, that $\frac{33}{\sqrt{123}} < 3$

33.
A barrel has a capacity of 10.6 litres.
The barrel is 76% full with water.
Every second, 4.87 millilitres of water leaks from the barrel.
- (a) Work out an estimate for the number of minutes it will take the barrel to be emptied.

(b) Is your answer an overestimate or an underestimate? Explain your reasoning.

34.
(a) Calculate an estimate for the area of the shaded region.



(b) Is your answer an overestimate or an underestimate? Explain your reasoning.