

SMART EXAM RESOURCES
STAGE 9 MATHEMATICS
TOPIC QUESTIONS
TOPIC: ESTIMATING SURDS
SET-2

1. Estimate $\sqrt{120}$ to one decimal place.

Solution:

We know that $\sqrt{100} = 10$ and $\sqrt{121} = 11$.

Since 120 is closer to 121, we estimate $\sqrt{120}$ to be slightly less than 11.

Use a calculator for a more precise estimate:

$\sqrt{120} \approx 10.954$.

Answer: $\sqrt{120} \approx 11.0$.

2. Estimate $\sqrt{3}$ to two decimal places.

Solution:

We know that $\sqrt{1} = 1$ and $\sqrt{4} = 2$.

Since 3 is closer to 4, we estimate $\sqrt{3}$ to be slightly less than 2.

Use a calculator for a more precise estimate:

$$\sqrt{3} \approx 1.732.$$

Answer: $\sqrt{3} \approx 1.73$.

3. Estimate $\sqrt{8}$ to one decimal place.

We know that $\sqrt{4} = 2$ and $\sqrt{9} = 3$.

Since 8 is closer to 9, we estimate $\sqrt{8}$ to be slightly less than 3.

Use a calculator for a more precise estimate:

$$\sqrt{8} \approx 2.828.$$

Answer: $\sqrt{8} \approx 2.8$.

4. Estimate $\sqrt{60}$ to one decimal place.

We know that $\sqrt{49} = 7$ and $\sqrt{64} = 8$.

Since 60 is closer to 64, we estimate $\sqrt{60}$ to be slightly less than 8.

Use a calculator for a more precise estimate:

$$\sqrt{60} \approx 7.746.$$

Answer: $\sqrt{60} \approx 7.7$.