# Estimating Roots

**1**

Between which two whole numbers is $\sqrt{21}$?

$4^2 = 16 < 21 < \square = \square^2$

Between _____

**2**

Between which two whole numbers is $\sqrt{43}$?

$6^2 = \square < 43 < \square = \square^2$

Between _____

**3**

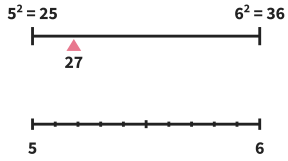
Between which two whole numbers is $\sqrt{33}$?

$\square^2 = \square < 33 < \square = \square^2$

Between _____

**4**

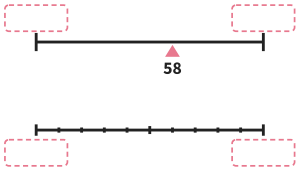
Estimate $\sqrt{27}$ to 1 decimal place.




Answer _____

**5**

Estimate $\sqrt{58}$ to 1 decimal place.




Answer _____

**6**

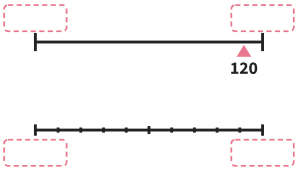
Between which two whole numbers is $\sqrt[3]{45}$?

$3^3 = 27 < 45 < \square = \square^3$

Between _____

**7**

Estimate $\sqrt[3]{120}$ to 1 decimal place.




Answer _____

**8**

Sam says $\sqrt{72}$ is about 36, because $36 \times 2 = 72$. What has Sam done wrong?

Sam has _____

$36^2$ = _____

$8^2 = 64$, $9^2 = 81$, so $\sqrt{72}$ is between

_____

# Estimating Roots *further practice*

**9**

Between which two whole numbers is $\sqrt{150}$?

Between _____

**10**

Estimate $\sqrt{66}$ to 1 decimal place.

Answer _____

**11**

Estimate $\sqrt[3]{150}$ to 1 decimal place.

Answer _____

**12**

A square garden has an area of 62 m$^2$. Estimate the length of one side to 1 decimal place.

Answer _____

**13**

A box in the shape of a cube has a volume of 180 cm$^3$.
Estimate the length of one edge to 1 decimal place.

Answer _____

**14**

Which is bigger, $\sqrt{35}$ or 5.8?
Show how you know.

Bigger _____

**15**

Write these in order, smallest first.
$\sqrt{38}$ 6.2 $\sqrt[3]{230}$

Order _____

**16**

$\sqrt{n}$ is between 5 and 6, and $n$ is a whole number. How many different values can $n$ take? Explain.

Answer _____