

Mathematics

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(Chapter – 1) (Number Systems)(Exemplar Problems)

(Class – IX)

Exercise 1.3

Question 6:

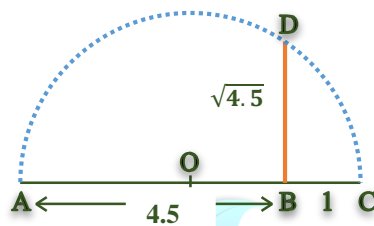
Represent geometrically the following numbers on the number line:

- (i) $\sqrt{4.5}$ (ii) $\sqrt{5.6}$ (iii) $\sqrt{8.1}$ (iv) $\sqrt{2.3}$

Answer 6:

- (i) $\sqrt{4.5}$

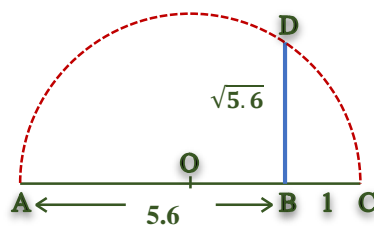
Presentation of $\sqrt{4.5}$ on number line:



Mark the distance 4.5 units from a fixed point A on a given line to obtain a point B such that $AB = 4.5$ units. From B, mark a distance of 1 unit and mark the new point as C. Find the mid-point of AC and mark that point as O. Draw a semicircle with centre O and radius OC. Draw a line perpendicular to AC passing through B and intersecting the semicircle at D. Then, $BD = \sqrt{4.5}$.

- (ii) $\sqrt{5.6}$

Presentation of $\sqrt{5.6}$ on number line:



Mathematics

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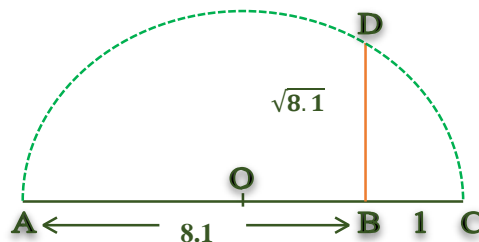
(Chapter – 1) (Number Systems)(Exemplar Problems)

(Class – IX)

Mark the distance 5.6 units from a fixed point A on a given line to obtain a point B such that $AB = 5.6$ units. From B, mark a distance of 1 unit and mark the new point as C. Find the mid-point of AC and mark that point as O. Draw a semicircle with centre O and radius OC. Draw a line perpendicular to AC passing through B and intersecting the semicircle at D. Then, $BD = \sqrt{5.6}$.

(iii) $\sqrt{8.1}$

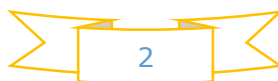
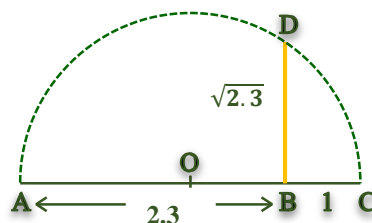
Presentation of $\sqrt{8.1}$ on number line:



Mark the distance 8.1 units from a fixed point A on a given line to obtain a point B such that $AB = 8.1$ units. From B, mark a distance of 1 unit and mark the new point as C. Find the mid-point of AC and mark that point as O. Draw a semicircle with centre O and radius OC. Draw a line perpendicular to AC passing through B and intersecting the semicircle at D. Then, $BD = \sqrt{8.1}$.

(iv) $\sqrt{2.3}$

Presentation of $\sqrt{2.3}$ on number line:



Mathematics

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(Chapter – 1) (Number Systems)(Exemplar Problems)

(Class – IX)

Mark the distance 2.3 units from a fixed point A on a given line to obtain a point B such that $AB = 2.3$ units. From B, mark a distance of 1 unit and mark the new point as C. Find the mid-point of AC and mark that point as O. Draw a semicircle with centre O and radius OC. Draw a line perpendicular to AC passing through B and intersecting the semicircle at D. Then, $BD = \sqrt{2.3}$.

