

Question:

The top of the building is considered as 0 distance. A ball thrown up rose 48 meters before it started falling. What signed number can represent its position after it has dropped by 68 meters.

Answer

Let the top of the building is represented by the point A. it is given that the top of the building is considered as 0 distance. So, we can take point A as the **reference point** (0 distance) point.

The ball is thrown up, and it rose 48 m High (given), before it started falling. Let the ball reached the **highest point B**, where it stopped and started falling back.

Once it reaches the **point C**, on its way back to earth, its distance from the reference point will be "0 m" (zero meters).

Once we consider the same ball has been dropped by 68 meters, it means after point C till the point D (when the ball hits the ground), the ball must travel 20 m more distance.

So, once we consider the top of the building as the reference point (zero distance), the **distance between C and D** is considered as **-20 m**.

Therefore, the signed number that represents the position after the ball has been dropped by 68 meters will be -20 m.

