Problem 20

Three children are standing around a basketball. Each child's distance from the ball is 1 ft, 4 ft, and 6 ft respectively. If $d_{\max}$ and $d_{\min}$ represent the maximum and minimum possible distances any 2 children are away from each other; what is $d_{\max} - d_{\min}$?

Answer

8

Explanation

If the second and third children are on exact opposite sides of the ball, their distance would be $d_{\max}$. Hence, $d_{\max} = 6 + 4 = 10$

If the second and third children are on the same side of the ball, their distance would be $d_{\min}$. Hence, $d_{\min} = 6 - 4 = 2$

Therefore, $d_{\max} - d_{\min} = 8$