

Grade 9 Mathematics Worksheet

Measurement, distance and volume

Questions:

1. Jonas buys an imported retractable ladder that can extend to 28 ft and retract to 9 feet. If he places his new ladder 0,6m away from a vertical wall, what is the lowest and the highest height (in metres) that he will reach on the wall?
(1 m = 3,28084 ft)



2. A splash pool contains 125 m^3 of water. Each day 0,05ml of chlorine is added to the pool for every litre of water in the pool.
 - a) How much chlorine must be added every day?
 - b) If you buy a slow release concentrated chlorine dispenser which releases in total 20 litres of chlorine a day, will this be enough to keep the chlorine intake per day the same as in (a)?

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Solution

1. $\max: \frac{28}{3,28084} = 8,534m$ and $\min: \frac{9}{3,28084} = 2,743m$
 $\therefore h_{\max} = \sqrt{(8,534)^2 - (0,6)^2}$ or $h_{\min} = \sqrt{(2,743)^2 - (0,6)^2}$
 $\therefore h_{\max} = 8,51m$ or $h_{\min} = 2,68m$

2. a) 1 cubic metre = 1 000 000 millilitre = 1000 litre
So $125m^3 = 125000000ml = 125000l$
 $\therefore 125000 \times 0,05 = 6250ml$

- b) Buying the slow release dispenser will over chlorinate your splash pool because it will release three times as much chlorine than is needed.

Learners have to develop their own notation for use in the answer. Discuss the fact that measures in the UK and the USA are usually in ft.