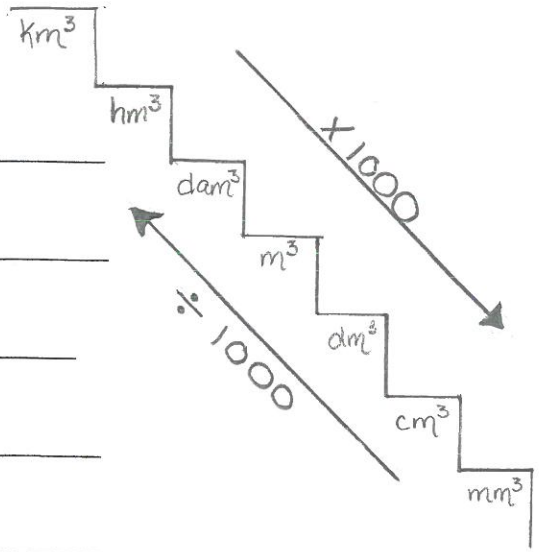
Metric Volume Conversions

Name: Answer Key



1. 500 dm^3 to m^3 : $0.5\ m^3$
2. 57 cm^3 to mm^3 : $57\,000\ mm^3$
3. 9000 mm^3 to cm^3 : $9\ cm^3$
4. 3 m^3 to cm^3 : $3\,000\,000\ cm^3$
5. 90 dm^3 to m^3 : $0.09\ m^3$
6. 680 cm^3 to dm^3 : $0.68\ dm^3$
7. 50 m^3 to dm^3 : $50\,000\ dm^3$
8. 2 km^3 to dam^3 : $2\,000\,000\ dam^3$
9. 8000 cm^3 to m^3 : $0.008\ m^3$
10. 19 hm^3 to dam^3 : $19\,000\ dam^3$
11. 500 000 m^3 to hm^3 : $0.5\ hm^3$
12. 8 km^3 to m^3 : $8\,000\,000\,000\ m^3$
13. 11 200 dm^3 to dam^3 : $0.0112\ dam^3$
14. 52 000 cm^3 to m^3 : $0.052\ m^3$
15. 101 dam^3 to m^3 : $101\,000\ m^3$
16. 8000 mm^3 to dm^3 : $0.008\ dm^3$

Metric Volume Conversions

17. Karen has a pool that holds 100 000 m^3 of water that she needs to maintain properly.

a) 1 chlorine puck contains 5 grams of chlorine and she needs 1 puck per 10 dam^3 of water. How many grams of chlorine does Karen need?

$100\,000 m^3 = 100 dam^3$

$\frac{100\ dam^3}{10} = 10$ pucks

5 grams per puck $\Rightarrow$ $5(10)$

$= 50$ grams of chlorine

b) Since it's summer and the weather is warm, water evaporates from Karen's pool at a rate of 10 000 000 cm^3 per day. If the amount of water in the pool goes below 99 940 m^3, her skimmer will stop working. If Karen starts off with 100 000 m^3 in her pool, how many days until the skimmer stops working?

$10\,000\,000 cm^3 = 10 m^3$

Amount of water missing for the skimmer to stop

$100\,000 - 99\,940 = 60 m^3$

$\frac{60}{10} = 6$ days for the skimmer to stop working

c) Karen notices her pool has gone down to 99 950 m^3 and wants to fill it up with the hose. The hose runs at a rate of 2500 dm^3 per hour. How many hours will she need to run the hose for so the pool is full again? (100 000 m^3)

Amount of water missing $= 100\,000 - 99\,950$

$= 50 m^3$

$= 50\,000 dm^3$

$\frac{50\,000}{2500} = 20$ hours to fill up the pool