

Push Tasks — Answers



1. A tank holds 8.5 kL. Pool 1 takes 1.8 kL and Pool 2 takes 2.4 kL. How much is left for Pool 3?

Solution

$$8.5 - 1.8 - 2.4 = 4.3 \text{ kL}$$

3. Tank A holds 16.2 kL. If 385 L is removed, what remains, in kL?

Solution

$$385 \text{ L} = 0.385 \text{ kL}$$

$$16.2 - 0.385 = 15.815 \text{ kL}$$

2. A pump fills at 2.4 kL/h. How much does it fill in a 40-hour week, in kL?

Solution

$$2.4 \times 40 = 96 \text{ kL}$$

4. A reservoir holds 1.05 ML and releases water at 350 L/min. How many hours to empty it?

Solution

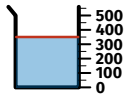
$$1.05 \text{ ML} = 1,050,000 \text{ L}$$

$$\div 350 = 3000 \text{ min} = 50 \text{ h}$$

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5. Fills a 5 L container. Full jugs needed, and leftover mL?



Solution

$$5000 \div 350 =$$

$$14.28 \dots$$

14 jugs, 100 mL left

7. Tap A fills a 1.35 kL tank in 3000 seconds. Tap B fills a 900 L tank in 1800 seconds. Which tap has the faster flow rate? Justify with a rate comparison.

Solution

A: $1350 \div 3000 = 0.45$; B:

$900 \div 1800 = 0.5$ L/s — B faster

6. A café has 10 L of milk. Each coffee uses 80 mL. Can they make 130 coffees today? Justify your answer.

Solution

$$130 \times 80 = 10\,400 \text{ mL needed} > 10\,000 \text{ mL}$$

No — only 125 coffees possible

8. A pipeline is limited to 80 kL/h. 12 pumps each deliver 6.3 kL/h. Is the pipeline over or under its limit, and by how much?

Solution

$$12 \times 6.3 = 75.6 \text{ kL/h}$$

4.4 kL/h under the limit

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9. A tanker offloads 250 kL at 3.5 kL per cycle. How many full cycles are needed to offload it all? Explain why you round up.

Solution

$250 \div 3.5 = 71.43 \dots \rightarrow 72$ cycles
(a part-cycle still needs a full one)

11. A water store holds 85 kL and dispenses 320 L per day. After how many full days does it run out, and how much remains unused at that point?

Solution

$85\,000 \div 320 = 265.625$ days
265 full days, 200 L left over

10. A truck (18 kL) and trailer (12 kL) must carry 24 drums, each holding 950 L. Is this within their combined capacity? By how much?

Solution

$18 + 12 = 30$ kL; $24 \times 950 = 22.8$ kL
Yes, within by 7.2 kL

12. A household's water budget is 200 kL per quarter. They have used 155.6 kL with 18 days left, using water at a steady 2.2 kL/day. Will they stay within budget? By how much?

Solution

Left: $200 - 155.6 = 44.4$ kL; need
 $18 \times 2.2 = 39.6$ kL
Yes, within budget by 4.8 kL