Unit 10 · Capacity

HARDER PRACTICE QUESTIONS · ANSWER KEY

Full marks 33

Give the marks for the points in the marking scheme; an answer in other words that says the same is right.

1 Bottles from a jar

ANSWER A · 3

i. Put both in ml: 20 l = 20,000 ml, and 1 l 500 ml = 1500 ml. 20,000 ÷ 1500 = 13, remainder 500 (1500 × 13 = 19,500). So **13 bottles**.
ii. **500 ml** is left.
iii. 1500 ml − 500 ml = 1000 ml = **1 l**.

MARKING SCHEME

✓ 13 full bottles.
✓ 500 ml left.
✓ 1 l more.

2 Medicine for two

ANSWER A · 4

i. One dose: 2 × 5 ml = 10 ml. One child, one day: 10 ml × 2 = 20 ml. Two children: 20 ml × 2 = **40 ml a day**.
ii. 100 ÷ 40 = 2, remainder 20. **2 full days**, with **20 ml** left.
iii. 5 days: 40 ml × 5 = 200 ml. 200 ml ÷ 100 ml = **2 bottles**.

MARKING SCHEME

✓ 10 ml a dose.
✓ 40 ml a day.
✓ 2 days, 20 ml left.
✓ 2 bottles.

3 Right or wrong?

ANSWER U · 3

i. **Wrong.** 2 l = 2000 ml, and 2000 + 75 = **2075 ml**.
ii. **Right.** 3 l ÷ 3 = 1 l, and 600 ml ÷ 3 = 200 ml.
iii. **Wrong.** The number is right, but an amount ÷ an amount gives a **number**, with no unit: 4000 ml ÷ 250 ml = **16** (16 glasses, for example).

MARKING SCHEME

✓ i. Wrong, 2075 ml.
✓ ii. Right.
✓ iii. Wrong, 16 with no unit.

4 The tank on the roof

ANSWER A · 4

i. 85 l 750 ml + 114 l 250 ml = 199 l 1000 ml = **200 l**.
ii. 500 l − 200 l = **300 l**.
iii. 200 l ÷ 25 l = **8 minutes**.
iv. 200 l × 7 = **1400 l**.

MARKING SCHEME

✓ 200 l used.
✓ 300 l left.
✓ 8 minutes.
✓ 1400 l in a week.

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5 Mixing a drink

ANSWER A · 4

i. 5 cups of 200 ml: 200 ml × 5 = 1000 ml = **1 l**.
ii. 6 l ÷ 1 l = **6 times**.
iii. Squash: 6 cups, 200 ml × 6 = 1200 ml = **1 l 200 ml**. Water: 6 × 4 = 24 cups, 200 ml × 24 = 4800 ml = **4 l 800 ml**.

Check: 1 l 200 ml + 4 l 800 ml = 5 l 1000 ml = 6 l. ✓

MARKING SCHEME

- ✓ 1 l from one mixing.
- ✓ 6 mixings.
- ✓ 1 l 200 ml of squash.
- ✓ 4 l 800 ml of water.

6 Which is the best buy?

ANSWER A · 4

i. Bottle: **Rs. 240**. Pouch: 2 pouches make 1 l, so 130 × 2 = **Rs. 260**. Can: 1,150 ÷ 5 = **Rs. 230**.
ii. The **can** is cheapest (Rs. 230 a liter). The **pouch** is dearest (Rs. 260 a liter).
iii. The can is too big and costs more than Rs. 500. 4 pouches cost Rs. 520, too much. **2 bottles** cost Rs. 480, and he has Rs. 20 left.

MARKING SCHEME

- ✓ Pouch Rs. 260 a liter.
- ✓ Can Rs. 230 a liter.
- ✓ Can cheapest, pouch dearest.
- ✓ 2 bottles, Rs. 480.

7 At the dairy

ANSWER A · 4

i. 750 ml × 9 = 6750 ml = 6 l 750 ml, and 12 l × 9 = 108 l. 108 l + 6 l 750 ml = **114 l 750 ml**.
ii. 2 cans hold 80 l, too little. 3 cans hold 120 l, enough. So **3 cans**, and the third isn't full.
iii. 750 ml × 7 = 5250 ml = 5 l 250 ml, and 114 l × 7 = 798 l. 798 l + 5 l 250 ml = **803 l 250 ml**.

MARKING SCHEME

- ✓ 6750 ml = 6 l 750 ml.
- ✓ 114 l 750 ml a day.
- ✓ 3 cans, with the reason.
- ✓ 803 l 250 ml a week.

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8 Think: two jugs

ANSWER HA · 4

One way (5 l jug, 3 l jug):

1. Fill the 5 l jug: 5 l, 0 l.
2. Pour from it into the 3 l jug until that is full: **2 l**, 3 l.
3. Empty the 3 l jug: 2 l, 0 l.
4. Pour the 2 l into the 3 l jug: 0 l, 2 l.
5. Fill the 5 l jug again: 5 l, 2 l.
6. Pour from it into the 3 l jug until that is full. Only 1 l goes in: **4 l**, 3 l.

(Another way: fill the 3 l jug and pour it into the 5 l jug. Fill it again and pour until the 5 l jug is full: 1 l stays in the 3 l jug. Empty the 5 l jug, pour in the 1 l, then add one more full 3 l jug: 1 + 3 = 4 l.)

MARKING SCHEME

- ✓ Getting 2 l (or 1 l) left in a jug.
- ✓ Keeping it in the other jug.
- ✓ Filling a jug again.
- ✓ Ending with exactly 4 l in the 5 l jug.

9 Make your own

ANSWER HA · 3

i. For example: 4 cups of 250 ml (4 × 250 = 1000); 5 cups of 200 ml (5 × 200 = 1000); 2 cups of 250 ml and 5 of 100 ml (500 + 500 = 1000); 2 of 250, 2 of 200 and 1 of 100 (500 + 400 + 100 = 1000). Any three that add up to 1000 ml.

ii. 1 l 50 ml = 1050 ml. Try the 250 ml cups: with one, 1050 − 250 = 800 = 4 × 200. So **1 cup of 250 ml and 4 cups of 200 ml**.

MARKING SCHEME

- ✓ Three ways, each adding up to 1000 ml.
- ✓ 1050 ml.
- ✓ 1 cup of 250 ml and 4 of 200 ml.

Marks by level	Knowledge	Understanding	Application	Higher ability	Total
Marks	0	3	23	7	**33**

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