

Reasoning and Problem Solving Metric Units

Developing

1a. **Yes – 10cm spare**

2a.

50	0.5
110	1.1
360	3.6

Divided by 10 instead of 100.

3a. **Gloria is correct. $1\text{mm} \times 10 = 10\text{mm} = 1\text{cm}$**

Expected

4a. **Yes – 6cm spare**

5a.

700	70	0.7
4,600	460	4.6
8,100	810	8.1

Divided by 10 instead of 100

Divided by 100 instead of 10

6a. **Shaun is correct. $1,000\text{mm} = 1\text{m}$. $100\text{mm} = 0.1\text{m}$**

Greater Depth

7a. **No. 1cm needed**

8a.

506	50.6	0.506
901	90.1	0.901
1,060	106	1.06
5,034	503.4	5.034
9,010	901	9.01

Divided by 100 instead of 10

Divided by 10 instead of 100

Divided by 10 instead of 100

Divided by 10 instead of 100

9a. **Billy is correct because a metre is 1,000mm. For example; if you converted 1,000mm into m by dividing by 1,000 it would equal 1m whereas multiplying would equal 100,000m, which cannot be correct as $1\text{m} = 1,000\text{mm}$.**

Reasoning and Problem Solving Metric Units

Developing

1b. **No – 5cm needed**

2b.

120	1,200
210	2,100
950	9,500

Divided by 10 instead of multiplying by 10.

3b. **Cole is correct. $1\text{cm} \times 100 = 100\text{cm} = 1\text{m}$**

Expected

4b. **Yes – 0.1m spare**

5b.

0.9	90	900
1.3	130	1,300
5.08	508	5,080

Multiplied by 10 instead of 100

Multiplied by 100 instead of 10

Multiplied by 10 instead of 100

6b. **Cassie is correct. $100\text{cm} = 1\text{m}$. $10\text{cm} = 0.1\text{m}$**

Greater Depth

7b. **Yes. 1.5cm spare**

8b.

10	1,000	10,000
8.02	802	8,020
6.04	604	6,040
0.21	21	210
0.01	1	10

Multiplied by 1,000 instead of 100

Multiplied by 10 instead of 100

Multiplied by 100 instead of 10

Multiplied by 100 instead of 10

9b. **Orion is correct. You could convert metres to millimetres in two steps. For example; if you had 8.32m it would equal 832cm which in turn equals 8,320mm (multiplying by 100 to convert to cm then 10 to convert to mm).**