Reasoning and Problem Solving
Step 4: Adding – Crossing the Whole

National Curriculum Objectives:

Mathematics Year 5: (5F10) Solve problems involving number up to 3dp
Mathematics Year 5: (5M9a) Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling

Differentiation:

Questions 1, 4, 7 (Reasoning)
Developing Explain if a statement about a missing weight or volume in a calculation adding decimals, crossing the whole, is correct. Includes hundredths and tenths.
Expected Explain if a statement about a missing weight or volume in a calculation adding decimals, crossing the whole, is correct. Includes thousandths, hundredths and tenths.
Greater Depth Explain if a statement about a missing weight or volume in a calculation adding decimals, crossing the whole, is correct. Includes thousandths, hundredths and tenths (with unconventional partitioning).

Questions 2, 5, 8 (Problem Solving)
Developing Calculate the missing length by adding decimals, crossing the whole, using hundredths and tenths.
Expected Calculate the missing length by adding decimals, crossing the whole, using thousandths, hundredths and tenths.
Greater Depth Calculate the missing length by adding decimals, crossing the whole, using thousandths, hundredths and tenths (with unconventional partitioning).

Questions 3, 6, 9 (Problem Solving)
Developing Compare equations using the appropriate symbol from a choice of 2. Equations involve adding decimals, crossing the whole, using hundredths and tenths.
Expected Compare equations using the appropriate symbol from a choice of 3. Equations involve adding decimals, crossing the whole, using thousandths, hundredths and tenths.
Greater Depth Compare equations using the appropriate symbol from a choice of 3. Equations involve adding decimals, crossing the whole, using thousandths, hundredths and tenths (with unconventional partitioning).

More Year 5 Decimals resources.

Did you like this resource? Don't forget to review it on our website.

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Adding – Crossing the Whole

1a. Dara has 2 tubs of sweets which weigh 1.25kg altogether.

One of the tubs is shown below.



0.74kg

Dara thinks the other tub weighs 0.61kg.

Is she correct? Convince me.

D R

Adding – Crossing the Whole

1b. Ben has 2 bottles of milk which contain 1.15L altogether.

One of the bottles is shown below.



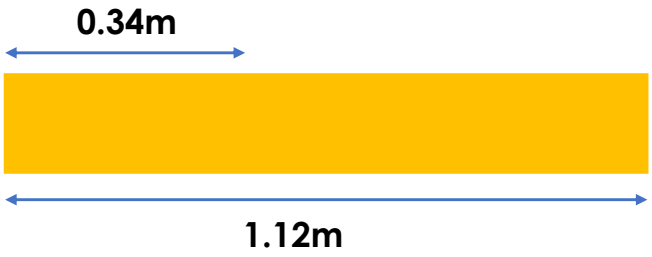
0.62L

Ben thinks the other bottle contains 0.43L.

Is he correct? Convince me.

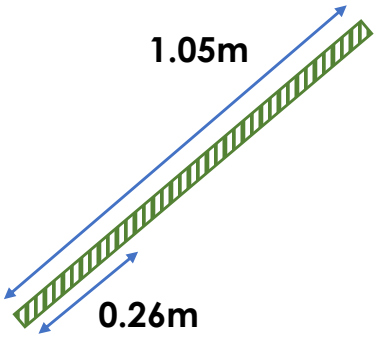
D R

2a. Calculate the missing length on the strip of paper.



D PS

2b. Calculate the missing length on the cable.



D PS

3a. Compare the calculations below and complete using any of the following symbols:

< =

0.04	+	0.97		0.93	+	0.52
0.58	+	0.62		0.79	+	0.41
0.61	+	0.63		0.83	+	0.41

D PS

3b. Compare the calculations below and complete using any of the following symbols:

> =

0.89	+	0.93		0.91	+	0.91
0.23	+	0.78		0.12	+	0.89
0.48	+	0.84		0.95	+	0.32

D PS

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Adding – Crossing the Whole

4a. Leyla has 2 jars of pickles which weigh 1.342kg altogether.

One of the jars is shown below.



0.879kg

Leyla thinks the other jar weighs 0.453kg.

Is she correct? Convince me.

E R

Adding – Crossing the Whole

4b. Ali has 2 bottles of lemonade which contain 1.567L altogether.

One of the bottles is shown below.



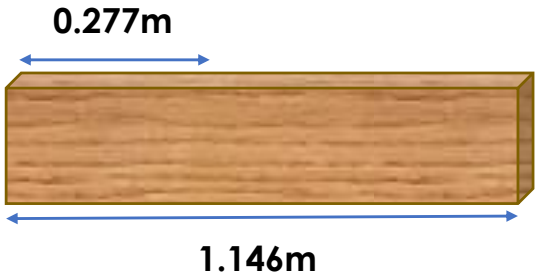
0.728L

Ali thinks the other bottle contains 0.939L.

Is he correct? Convince me.

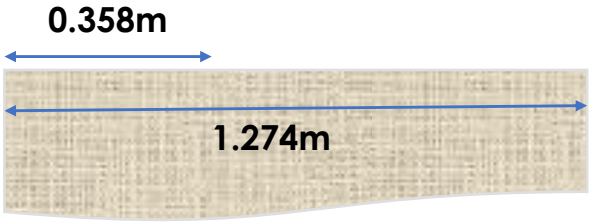
E R

5a. Calculate the missing length on the wooden plank.



E PS

5b. Calculate the missing length on the material.



E PS

6a. Compare the calculations below and complete using any of the following symbols:

< > =

0.761 + 0.542		0.653 + 0.694
0.496 + 0.687		0.395 + 0.788
0.918 + 0.843		0.089 + 0.935
0.452 + 0.567		0.405 + 0.603

E PS

6b. Compare the calculations below and complete using any of the following symbols:

< > =

0.903 + 0.098		0.576 + 0.583
0.835 + 0.645		0.243 + 0.792
0.432 + 0.975		0.231 + 0.793
0.321 + 0.849		0.365 + 0.909

E PS

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Adding – Crossing the Whole

7a. Kim has 2 text books which weigh 1kg + 780g + 19g altogether.

One of the books is shown below.



0.976kg

Kim thinks the other book weighs 822g.

Is she correct? Convince me.

GD R

Adding – Crossing the Whole

7b. Jay has 2 bottles of fizzy water which contain 1L + 820ml +14ml altogether.

One of the bottles is shown below.



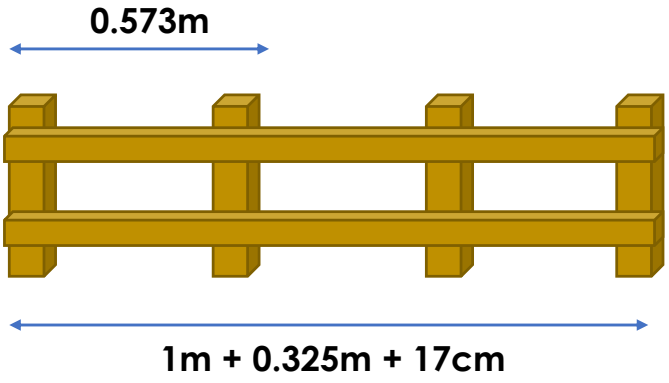
0.958L

Jay thinks the other bottle contains 866ml.

Is he correct? Convince me.

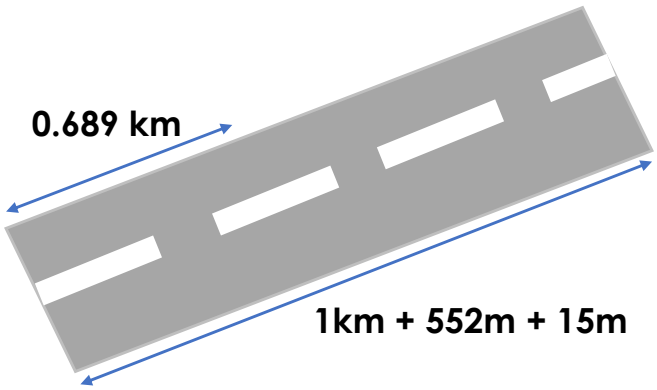
GD R

8a. Calculate the missing length on the fence.



GD PS

8b. Calculate the missing length on the road.



GD PS

9a. Compare the calculations below and complete using any of the following symbols:

< > =

1 one, 5 tenths and 42 thousandths	☐	0.803 + 0.756
1 one, 68 hundredths and 3 thousandths	☐	0.914 + 0.769
1 one, 9 tenths and 87 thousandths	☐	0.729 + 0.995

GD PS

9b. Compare the calculations below and complete using any of the following symbols:

< > =

1 one, 8 tenths and 67 thousandths	☐	0.917 + 0.895
1 one, 49 hundredths and 6 thousandths	☐	0.638 + 0.784
1 one, 6 tenths and 93 thousandths	☐	0.896 + 0.799

GD PS

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Reasoning and Problem Solving
Adding – Crossing the Whole

Developing

1a. Dara is not correct because 0.74kg + 0.61kg = 1.35kg. The other tub weighs 0.51kg.

2a. 0.78m

3a. <, =, =

Expected

4a. Leyla is not correct because 0.879kg + 0.453kg = 1.332kg. The other jar weighs 0.463kg.

5a. 0.869m

6a. <, =, >, >

Greater Depth

7a. Kim is not correct because 0.976kg + 822g = 1.798kg. The other book weighs 823g or 0.823kg.

8a. 0.922m or 92.2cm

9a. <, =, >

Reasoning and Problem Solving
Adding – Crossing the Whole

Developing

1b. Ben is not correct because 0.62L + 0.43L = 1.05L. The other bottle contains 0.53L.

2b. 0.79m

3b. =, =, >

Expected

4b. Ali is not correct because 0.728L + 0.939L = 1.667L. The other bottle contains 0.839L.

5b. 0.916m

6b. <, >, >, <

Greater Depth

7b. Jay is not correct because 0.958L + 866ml = 1.824L. The other bottle contains 876ml or 0.876L.

8b. 0.878km or 878m

9b. >, >, <

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