

Year 6 Maths

Week 15 Lesson 2

Decimals – Dividing



In this lesson you will:

- Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to three decimal places;
- Solve problems which require answers to be rounded to specified degrees of accuracy.

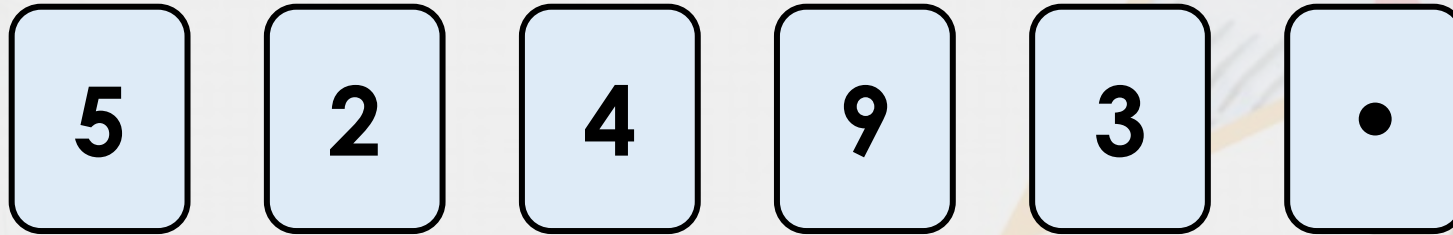


Problem Solving 1

Use the digit cards to create answers to the calculations below.

Which calculation cannot be answered?

Digit cards can be used more than once.



A $5,349 \div 100 =$

B $325 \div 1,000 =$

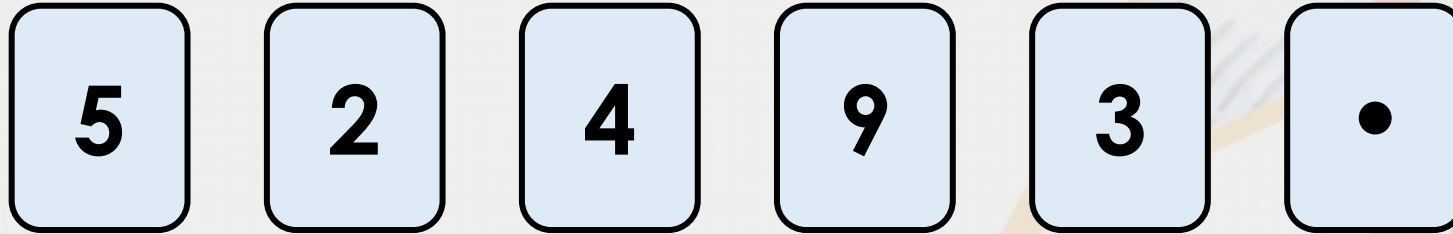
C $53.2 \div 10 =$

Problem Solving 1

Use the digit cards to create answers to the calculations below.

Which calculation cannot be answered?

Digit cards can be used more than once.



A $5,349 \div 100 =$

B $325 \div 1,000 =$

C $53.2 \div 10 =$

Reasoning 1

Steph and Ben are converting units of measure.



Steph

I think that
6,040cm can be
converted to 60.4m



Ben

I think that
6,040cm can be
converted to 6.04m

Who is correct? Give reasons for your answer.

Reasoning 1

Steph and Ben are converting units of measure.



Steph

I think that
6,040cm can be
converted to 60.4m



Ben

I think that
6,040cm can be
converted to 6.04m

Who is correct? Give reasons for your answer.

Steph is correct because...

Reasoning 1

Steph and Ben are converting units of measure.



Steph

I think that
 $6,040\text{cm}$ can be
converted to 60.4m



Ben

I think that
 $6,040\text{cm}$ can be
converted to 6.04m

Who is correct? Give reasons for your answer.

Steph is correct because she knows that there are 100cm in a metre, so she divided $6,040\text{cm}$ by 100 .

Problem Solving 2

Solve the riddle.

Hannah is thinking of a number.



Hannah

**My number is
between 3 and 4.
When multiplied by
1,000 the number
becomes 3,150.**

What is Hannah's number?

Problem Solving 2

Solve the riddle.

Hannah is thinking of a number.



Hannah

My number is
between 3 and 4.
When multiplied by
1,000 the number
becomes 3,150.

What is Hannah's number?

3.15

Main Tasks – part i

Level 1

1a. Use the digit cards to create answers to the calculations below. Which calculation cannot be answered? Digit cards can be used more than once.



- A. $7,132 \div 10 =$
- B. $7,140 \div 100 =$
- C. $721 \div 10 =$



PS

2a. Hafsa and Sinead are dividing numbers by 10, 100 and 1,000.



Hafsa

I think that
 $7,452 \div 100 = 74.52$



Sinead

I think that
 $7,452 \div 100 = 745.2$

Who is correct? Give reasons for your answer.



R

Level 2

4a. Use the digit cards to create answers to the calculations below. Which calculation cannot be answered? Digit cards can be used more than once.



- A. $7,023 \div 100 =$
- B. $623 \div 1,000 =$
- C. $30.8 \div 10 =$



PS

5a. Alice and Cian are converting units of measure.



Alice

I think that
 $3,050\text{m}$ can be
converted to 3.05km



Cian

I think that
 $3,050\text{m}$ can be
converted to 30.5km

Who is correct? Give reasons for your answer.



R

Level 3

7a. Complete the digit cards to create answers to two calculations below. Which calculation can not be answered using your digit cards?



- A. $423.1 \div 10 =$
- B. $4,826 \div 200 =$
- C. $4,512 \div 100 =$



Change one digit card to answer the odd one out.

PS

8a. Jacob and Kelly are dividing numbers by 200.



Jacob

When I calculate $2,802 \div 200$, I will divide by 100 and double the answer to get 56.04 .



Kelly

When I calculate $2,802 \div 200$, I will divide by 100 and halve the answer to get 14.01 .

Who is correct? Give reasons for your answer.



R

Main Tasks – part ii

Level 1

3a. Solve the riddle.

Flo is thinking of a number.



Flo

When multiplied by 1,000, my number becomes 6,520.

What is Flo's number?



PS

Level 2

6a. Solve the riddle.

Josh is thinking of a number.



Josh

My number is between 10 and 30. When multiplied by 100 the number becomes 2,155.

What is Josh's number?



PS

Level 3

9a. Solve the riddle.

Ian is thinking of a number.



Ian

My number has 3 decimal places and is between 7kg and 8kg. When converted to grams, the hundreds digit is 6 and the tens digit is 9.

What could Ian's number be? Find 3 possible answers. Give your answer in kg.



PS

Developing

1a. $A = 713.2$; $B = 71.4$ (it cannot be made using the digit cards); $C = 72.1$

2a. Hafsa is correct. She has moved the digits 2 places to the right. Sinead has divided by 10.

3a. 6.52

Expected

4a. $A = 70.23$; $B = 0.623$; $C = 3.08$ (it cannot be made using the digit cards)

5a. Alice is correct. She has divided 3,050m by 1,000. Cian is incorrect as he divided by 100.

6a. 21.55

Greater Depth

7a. Digit cards: 1, 2, 3 and 4.

$A = 423.1$; $B = 24.13$; $C = 45.12$ (it is the odd one out)

To answer the odd one out, change the 3 for a 5.

8a. Kelly is correct. The answer is 14.01 as $2,802 \div 100 = 28.02$ and then halved to equal 14.01.

9a. Various answers, for example: 7.690kg, 7.691kg and 7.692kg

Here are the answers. How did you do?

There's going to be two more pages of questions. If you made some mistakes then great! Mistakes are brilliant as we remember them and learn from them.

The following questions are similar to the previous ones, so apply what you learnt from the previous ones.

You may also want to move up a level if you're feeling confident.

Main Tasks – part iii

Level 1

1b. Use the digit cards to create answers to the calculations below. Which calculation cannot be answered? Digit cards can be used more than once.

1 3 0 2 4 .

A. $1,230 \div 100 =$

B. $4,210 \div 10 =$

C. $3,150 \div 100 =$



PS

2b. Isabel and Gabriel are dividing numbers by 10, 100 and 1,000.



Isabel

I think that
 $2,750 \div 1,000 = 27.5$



Gabriel

I think that
 $2,750 \div 1,000 = 2.75$

Who is correct? Give reasons for your answer.



R

Level 2

4b. Use the digit cards to create answers to the calculations below. Which calculation can not be answered? Digit cards can be used more than once.

1 2 4 3 5 .

A. $5,420 \div 100 =$

B. $405 \div 1,000 =$

C. $13,540 \div 10 =$



PS

5b. Jilly and Chuan are converting units of measure.



Jilly

I think that 5,690g can
be converted to
5.609kg



Chuan

I think that 5,690g can
be converted to 5.69kg

Who is correct? Give reasons for your answer.



R

Level 3

7b. Complete the digit cards to create answers to the calculations below. Which calculation can not be answered using your digit cards?

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A. $6,428 \div 20 =$

B. $162.4 \div 10 =$

C. $4,123 \div 100 =$



Change one digit card to answer the odd one out.

PS

8b. Sean and Ali are dividing numbers by 2,000.



Sean

When I calculate $4,608 \div 2,000$, I will divide by 1,000 and halve the answer to get 2.304.



Ali

When I calculate $4,608 \div 2,000$, I will divide by 1,000 and double the answer to get 9.216.

Who is correct? Give reasons for your answer.



R

Main Tasks – part iv

Level 1

3a. Solve the riddle.

Flo is thinking of a number.



Flo

When multiplied by 1,000, my number becomes 6,520.

What is Flo's number?



PS

Level 2

6b. Solve the riddle.

Maisie is thinking of a number.



Maisie

My number is between 5 and 10. When multiplied by 1,000 the number becomes 7,185.

What is Maisie's number?



PS

Level 3

9b. Solve the riddle.

Dylan is thinking of a number.



Dylan

My number has 3 decimal places and is between 4L and 5L. When converted to millilitres, the tens digit is 2 and the ones digit is 8.

What could Dylan's number be? Find 3 possible answers. Give your answer in L.



PS

Developing

1b. $A = 12.3$; $B = 421$; $C = 31.5$ (it cannot be made with the digit cards)

2b. Gabriel is correct. He has moved the digits 3 place to the right. Isabel has divided by 100.

3b. 0.76

Expected

4b. $A = 54.2$; $B = 0.405$ (it cannot be made using the digit cards); $C = 1,354$

5b. Chuan is correct. He has divided 5,690g by 1,000. Jilly has also divided by 1,000, but she has done so incorrectly.

6b. 7.185

Greater Depth

7b. Digit cards: 1, 2, 3, and 4.

$A = 321.4$; $B = 16.24$ (it is the odd one out)

$C = 41.23$

To answer the odd one out, change the 3 for a 6.

8b. Sean is correct. The answer is 2.304 as $4,608 \div 1,000 = 4.608$ and then halved to equal 2.304.

9b. Various answers, for example: 4.728L, 4.828L and 4.928L

Well done!

If there's anything you are still unsure of from today's lesson please contact your teacher.