

Maths Answers

Maths Answers for the worksheets completed this week. Here are the answers for the reason and problem solving challenges from each day.

Tuesday's answers:

Multiply by 10

Reasoning and Problem Solving

Always, Sometimes, Never

If you write a whole number in a place value grid and multiply it by 10, all the digits move one column to the left.

Always.

Discuss the need for a placeholder after the new rightmost digit.

Annie has multiplied a whole number by 10

Her answer is between 440 and 540

What could her original calculation be?

How many possibilities can you find?

$$45 \times 10$$

$$46 \times 10$$

$$47 \times 10$$

$$48 \times 10$$

$$49 \times 10$$

$$50 \times 10$$

$$51 \times 10$$

$$52 \times 10$$

$$53 \times 10$$

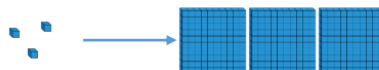
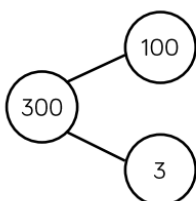
(or the above calculations written as 10×45 etc.).

Wednesday's answers:

Multiply by 100

Reasoning and Problem Solving

Which representation does **not** show multiplying by 100?
Explain your answer.



The part-whole model does not represent multiplying by 100

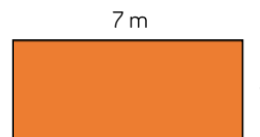
Part-whole models show addition (the aggregation structure) and subtraction (the partitioning structure), so if the whole is 300 and there are two parts, the parts added together should total 300 (e.g. 100 and 200, or 297 and 3). If the parts are 100 and 3, the whole should be 103.

To show multiplying 3 by 100 as a part-whole model, there would need to be 100 parts each with 3 in.

The perimeter of the rectangle is 26 m.

Find the length of the missing side.

Give your answer in cm.



The missing side length is 6 m so in cm it will be:

$$6 \times 100 = 600$$

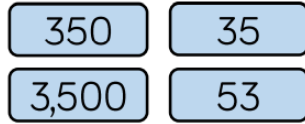
The missing length is 600 cm.

Thursday's answers:

Divide by 10

Reasoning and Problem Solving

Four children are in a race. The numbers on their vests are:



Use the clues to match each vest number to a child.

- Jack's number is ten times smaller than Mo's.
- Alex's number is not ten times smaller than Jack's or Dora's or Mo's.
- Dora's number is ten times smaller than Jack's.

Alex – 53

Jack – 350

Dora – 35

Mo – 3,500

While in Wonderland, Alice drank a potion and everything shrank. All the items around her became ten times smaller! Are these measurements correct?

Item	Original measurement	After shrinking
Height of a door	220 cm	2,200 cm
Her height	160 cm	16 cm
Length of a book	340 mm	43 mm
Height of a mug	220 mm	?

Can you fill in the missing measurement?

Can you explain what Alice did wrong?

Write a calculation to help you explain each item.

Height of a door
Incorrect – Alice has multiplied by 10.

Her height
Correct

Length of a book
Incorrect – Alice has swapped the order of the digits. When dividing by 10 the order of the digits never changes.

Height of a mug
22 mm.

Friday's answers:

Hours, Minutes & Seconds

Reasoning and Problem Solving

Jack takes part in a sponsored silence.

He says,



If I am silent for five hours at 10p per minute, I will raise £50

Do you agree with Jack?
Explain why you agree or disagree.

Jack is incorrect. There are 60 minutes in an hour so
 $60 \times 10p = 600p$ or £6
 $£6 \times 5 = £30$

Dora says,



To convert hours to minutes, I multiply the number of hours by 60

Is she correct? Can you explain why?

Dora is correct. For example
1 hour = 60 minutes
 $1 \times 60 = 60$
2 hours = 120 minutes
 $2 \times 60 = 120$

Five friends run a race. Their times are shown in the table.

Name	Time
Eva	114 seconds
Dexter	199 seconds
Teddy	100 seconds
Whitney	202 seconds
Ron	119 seconds

Which child finished the race the closest to two minutes?

What was the difference between the fastest time and the slowest time?
Give your answer in minutes and seconds.

Ron was the closest to two minutes, as he is one second quicker than 2 minutes (120 seconds).

Fastest time 100 seconds, slowest time 202 seconds.

The difference between the fastest and slowest time is 1 minute and 42 seconds.