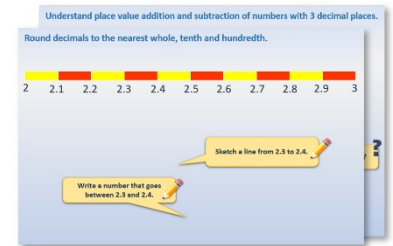


Week 6, Day 2

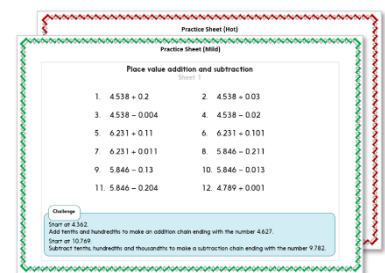
Use mental strategies to divide by 5, 20, 6, 4 and 8.

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. Start by reading through the **Learning Reminders**. They come from our *PowerPoint* slides.



2. Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.

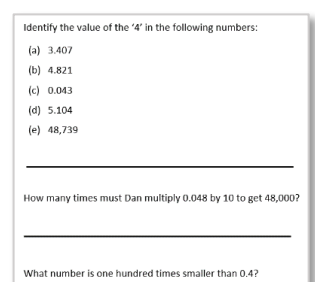


3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**



4. Think you've cracked it? Whizzed through the Practice Sheets? Have a go at the **Investigation...**

5. Have I mastered the topic? A few questions to **Check your understanding**. Fold the page to hide the answers!



Learning Reminders

Use mental strategies to divide by 5, 20, 6, 4 and 8.

$$240 \div 10 = 24$$

$$240 \div 5 = 48$$

We can divide numbers by 5 by **dividing by 10, and then doubling.**

We can double the answer to $240 \div 10$ to find $240 \div 5$.
If a number is split into smaller groups, there will be more groups, so dividing by a smaller number gives a bigger answer.

$$240 \div 20 = 12$$

We can divide numbers by 20 by **dividing by 10, and then halving.**

We can halve the answer to $240 \div 10$ to find $240 \div 20$.
If a number is split into bigger groups, there will be fewer groups, so dividing by a bigger number gives a smaller answer.

Learning Reminders

Use mental strategies to divide by 5, 20, 6, 4 and 8.

$27 \div 3 = 9$ so $270 \div 3 = 90$.

$270 \div 6 =$

We can use $270 \div 3 = 90$ to work out the answer to $270 \div 6$.

We need to **halve** the answer to $270 \div 3$.
 $270 \div 3 = 90$.
 $270 \div 6 = 45$.

To find $280 \div 4$.
Halve twice.



$280 \div 8 =$

We can use $280 \div 4 = 70$ to work out the answer to $280 \div 8$.

We need to **halve** the answer to $280 \div 4$.
 $280 \div 4 = 70$.
 $280 \div 8 = 35$.

Practice Sheet Mild
Mental strategies for division

- | | | | |
|-----|---------------|---------------|--------------|
| 1. | $360 \div 10$ | $360 \div 20$ | $360 \div 5$ |
| 2. | $180 \div 10$ | $180 \div 20$ | $180 \div 5$ |
| 3. | $420 \div 10$ | $420 \div 20$ | $420 \div 5$ |
| 4. | $540 \div 10$ | $540 \div 20$ | $540 \div 5$ |
| 5. | $150 \div 3$ | $150 \div 6$ | |
| 6. | $210 \div 3$ | $210 \div 6$ | |
| 7. | $450 \div 3$ | $450 \div 6$ | |
| 8. | $200 \div 2$ | $200 \div 4$ | $200 \div 8$ |
| 9. | $288 \div 2$ | $288 \div 4$ | $288 \div 8$ |
| 10. | $216 \div 2$ | $216 \div 4$ | $216 \div 8$ |

Practice Sheet Hot

Mental strategies for division

- | | | | |
|-----|---------------|---------------|--------------|
| 1. | $780 \div 10$ | $780 \div 20$ | $780 \div 5$ |
| 2. | $430 \div 10$ | $430 \div 20$ | $430 \div 5$ |
| 3. | $370 \div 10$ | $370 \div 20$ | $370 \div 5$ |
| 4. | $270 \div 3$ | $270 \div 6$ | |
| 5. | $312 \div 3$ | $312 \div 6$ | |
| 6. | $123 \div 3$ | $123 \div 6$ | |
| 7. | $336 \div 2$ | $336 \div 4$ | $336 \div 8$ |
| 8. | $656 \div 2$ | $656 \div 4$ | $656 \div 8$ |
| 9. | $172 \div 2$ | $172 \div 4$ | $172 \div 8$ |
| 10. | $260 \div 2$ | $260 \div 4$ | $260 \div 8$ |

Challenge

Which of these three statements is true? Estimate first then use mental strategies to check.

A. $240 \div 6 < 480 \div 12$

B. $240 \div 6 > 120 \div 3$

C. $240 \div 6 < 360 \div 2$

Practice Sheets Answers

Mental strategies for division (mild)

- | | | | |
|-----|--------------------|--------------------|--------------------|
| 1. | $360 \div 10 = 36$ | $360 \div 20 = 18$ | $360 \div 5 = 72$ |
| 2. | $180 \div 10 = 18$ | $180 \div 20 = 9$ | $180 \div 5 = 36$ |
| 3. | $420 \div 10 = 42$ | $420 \div 20 = 21$ | $420 \div 5 = 84$ |
| 4. | $540 \div 10 = 54$ | $540 \div 20 = 27$ | $540 \div 5 = 108$ |
| 5. | $150 \div 3 = 50$ | $150 \div 6 = 25$ | |
| 6. | $210 \div 3 = 70$ | $210 \div 6 = 35$ | |
| 7. | $450 \div 3 = 150$ | $450 \div 6 = 75$ | |
| 8. | $200 \div 2 = 100$ | $200 \div 4 = 50$ | $200 \div 8 = 25$ |
| 9. | $288 \div 2 = 144$ | $288 \div 4 = 72$ | $288 \div 8 = 36$ |
| 10. | $216 \div 2 = 108$ | $216 \div 4 = 54$ | $216 \div 8 = 27$ |

Mental strategies for division (hot)

- | | | | |
|-----|--------------------|----------------------|---------------------|
| 1. | $780 \div 10 = 78$ | $780 \div 20 = 39$ | $780 \div 5 = 156$ |
| 2. | $430 \div 10 = 43$ | $430 \div 20 = 21.5$ | $430 \div 5 = 86$ |
| 3. | $370 \div 10 = 37$ | $370 \div 20 = 18.5$ | $370 \div 5 = 74$ |
| 4. | $270 \div 3 = 90$ | $270 \div 6 = 45$ | |
| 5. | $312 \div 3 = 104$ | $312 \div 6 = 52$ | |
| 6. | $123 \div 3 = 41$ | $123 \div 6 = 20.5$ | |
| 7. | $336 \div 2 = 168$ | $336 \div 4 = 84$ | $336 \div 8 = 42$ |
| 8. | $656 \div 2 = 328$ | $656 \div 4 = 164$ | $656 \div 8 = 82$ |
| 9. | $172 \div 2 = 86$ | $172 \div 4 = 43$ | $172 \div 8 = 21.5$ |
| 10. | $260 \div 2 = 130$ | $260 \div 4 = 65$ | $260 \div 8 = 32.5$ |

Challenge

A is false as $240 \div 6 = 40$ and $480 \div 12 = 40$. B is false as $240 \div 6 = 40$ and $120 \div 3 = 40$.
C is true. $240 \div 6 = 40$ and $360 \div 2 = 180$

A Bit Stuck?

Multiplying 10s and 100s by 1-digit numbers

Section 1

$6 \times 2 = \boxed{}$

$3 \times 5 = \boxed{}$

$4 \times 9 = \boxed{}$

$2 \times 2 = \boxed{}$

$9 \times 3 = \boxed{}$

$5 \times 4 = \boxed{}$

$6 \times 20 = \boxed{}$

$3 \times 50 = \boxed{}$

$4 \times 90 = \boxed{}$

$2 \times 200 = \boxed{}$

$9 \times 300 = \boxed{}$

$5 \times 400 = \boxed{}$

$\boxed{} \div 6 = 20$

$\boxed{} \div 3 = 50$

$\boxed{} \div 4 = 90$

$\boxed{} \div 2 = 200$

$\boxed{} \div 9 = 300$

$\boxed{} \div 5 = 400$

Section 2

$4 \times 4 = \boxed{}$

$3 \times \boxed{} = 21$

$6 \times 8 = \boxed{}$

$\boxed{} \times 6 = 54$

$7 \times 9 = \boxed{}$

$8 \times \boxed{} = 24$

$4 \times 40 = \boxed{}$

$3 \times \boxed{} = 2100$

$6 \times 80 = \boxed{}$

$\boxed{} \times 600 = 5400$

$7 \times 900 = \boxed{}$

$8 \times \boxed{} = 240$

$\boxed{} \div 4 = 40$

$2100 \div 3 = \boxed{}$

$\boxed{} \div 6 = 80$

$5400 \div \boxed{} = 600$

$\boxed{} \div 7 = 900$

$240 \div 8 = \boxed{}$

A Bit Stuck? Answers

Multiplying 10s and 100s by 1-digit numbers

Section 1

$6 \times 2 = 12$

$3 \times 5 = 15$

$4 \times 9 = 36$

$2 \times 2 = 4$

$9 \times 3 = 27$

$5 \times 4 = 20$

$6 \times 20 = 120$

$3 \times 50 = 150$

$4 \times 90 = 360$

$2 \times 200 = 400$

$9 \times 300 = 2700$

$5 \times 400 = 2000$

$120 \div 6 = 20$

$150 \div 3 = 50$

$360 \div 4 = 90$

$400 \div 2 = 200$

$2700 \div 9 = 300$

$2000 \div 5 = 400$

Section 2

$4 \times 4 = 16$

$3 \times 7 = 21$

$6 \times 8 = 48$

$9 \times 6 = 54$

$7 \times 9 = 63$

$8 \times 3 = 24$

$4 \times 40 = 160$

$3 \times 700 = 2100$

$6 \times 80 = 480$

$9 \times 600 = 5400$

$7 \times 900 = 6300$

$8 \times 30 = 240$

$160 \div 4 = 40$

$2100 \div 3 = 700$

$480 \div 6 = 80$

$5400 \div 9 = 600$

$6300 \div 7 = 900$

$240 \div 8 = 30$

Investigation

Exploring mental methods for division

360

420

780

660

- Choose one of these numbers.
- Divide the number by...

5

20

6

4

8

- What strategies did you use? Write a sentence or two to explain for each.
- Repeat for each of the other numbers.
- Which did you find the easiest? Can you explain why? Write an even easier question to solve using the same strategies.
- Which did you find the hardest? Can you explain why? Write an even harder question to solve using the same strategies.

Challenge

- Make two 3-digit multiples of 10 in which the first two digits are reversed, e.g. Choose 3 and 6; the numbers would be 360 and 630.
- Try dividing each number by 5, 20, 6, 4 and 8, using mental strategies.
- Which number did you find easier to work with? Why?
- Repeat for another pair of 3-digit numbers

Check your understanding

Questions

If 42×10 is 420, calculate 42×5 , 42×20 and 42×19 .

Find double 31, then use the answer to find 31×4 and 31×8 .

If $350 \div 5$ is 70, calculate $350 \div 10$, $350 \div 20$ and $350 \div 70$.
So, what is $350 \div 2.5$?

Fold here to hide answers

Check your understanding

Answers

If 42×10 is 420, calculate 42×5 , 42×20 and 42×19 .

Answers are 210, 840 and 798 respectively.

Find double 31 then use the answer to find 31×4 and 31×8 .

Answers are 62, 124 and 248 respectively.

If $350 \div 5$ is 70, calculate $350 \div 10$, $350 \div 20$ and $350 \div 70$.

Answers are 35, 17.5 and 5 respectively.

So, what is $350 \div 2.5$? 140.