04/02/21

L.O.:To be able to round decimals to the nearest whole number.
To be able to round numbers to the nearest tenth.

S.C.:

I can use a number line to round decimals to the nearest whole number and tenth.

I can round decimals by identifying the key digits.

I can use knowledge of rounding to identify the lowest possible number.

In Focus

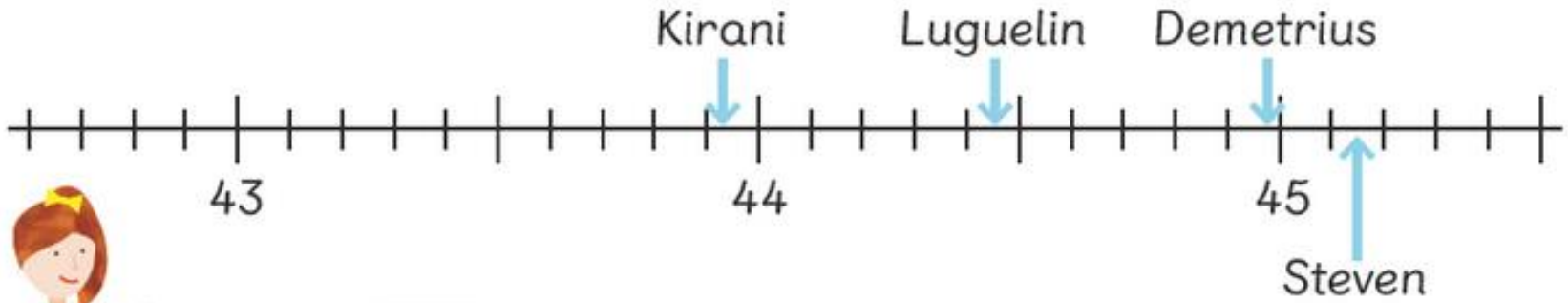
The times taken for 8 runners to complete a 400-m race are given below.

Name	Time
Kirani	43.94 s
Luguelin	44.46 s
Lalonde	44.52 s
Chris	44.79 s
Kevin	44.81 s
Jonathan	44.83 s
Demetrius	44.98 s
Steven	45.14 s

What if each time was recorded to the nearest whole number?

Let's Learn

1 Round these times to the nearest whole second.



Kirani's time is closer to 44 s than to 43 s.

43.94 s is approximately 44 s.

Luguelin's time is closer to 44 s than to 45 s.

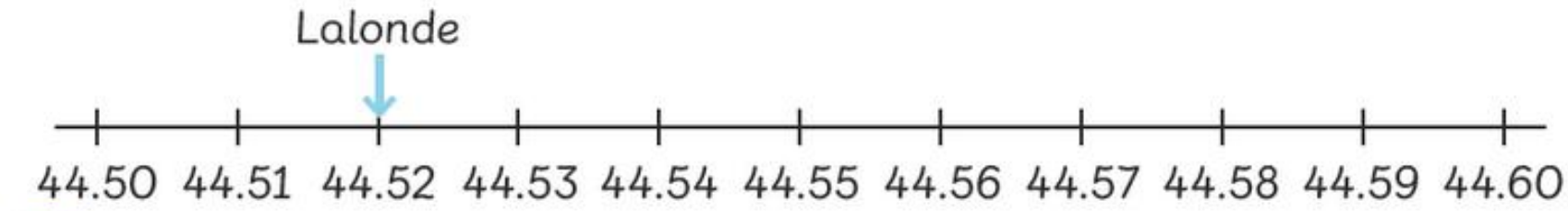
44.46 s ≈ 44 s (to the nearest whole number)

As a result, their times become:

Name	Time
Kirani	44 s
Luguelin	44 s
Lalonde	45 s
Chris	45 s
Kevin	45 s
Jonathan	45 s
Demetrius	45 s
Steven	45 s

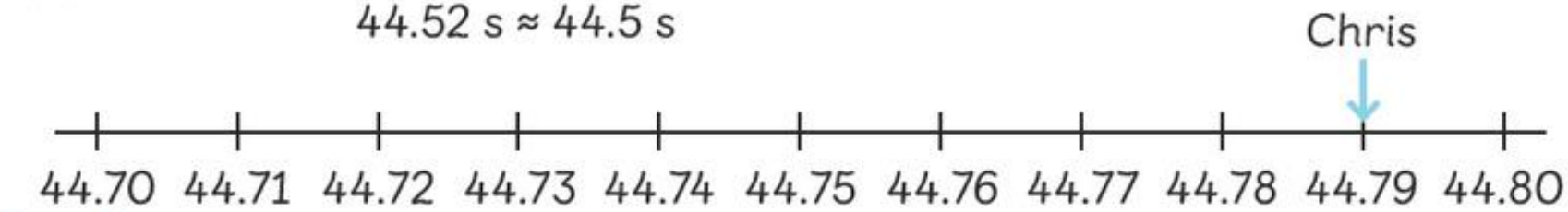
It is difficult to tell who is faster.

2 Round these times to the nearest tenth of a second.



44.52 is closer to 44.5 s than to 44.6 s.

$44.52 \text{ s} \approx 44.5 \text{ s}$



Chris' time is closer to 44.8 s than to 44.7 s.

44.79 s ≈ 44.8 s (to the nearest tenth of a second)

As a result, their times become:

Name	Time
Kirani	43.9 s
Luguelin	44.5 s
Lalonde	44.5 s
Chris	44.8 s
Kevin	44.8 s
Jonathan	44.8 s
Demetrius	45.0 s
Steven	45.1 s

Is it a good idea to record their times to the nearest tenth of a second?

Guided Practice

1 The distances some athletes jumped in a long jump competition are given below.

Name	Distance
Britney	7.17 m
Elena	7.07 m
Janay	6.89 m
Ineta	6.88 m
Anna	6.76 m
Nastassia	6.72 m
Eloyse	6.67 m
Shara	6.55 m
Ivana	6.35 m

(a) Write the distances to the nearest tenth of a metre.

(b) Write the distances to the nearest metre.

6.55 m is exactly halfway between 6.5 m and 6.6 m. We round it up to 6.6 m.

6.55 m ≈ 6.6 m (to the nearest 0.1 m)

2 Stephen won a marathon event in a time of 2 hours 8 minutes 1 second to the nearest second. What is the fastest he could have completed the race, to the nearest 0.1 s?

Worksheet 15, Page no. 29

Rounding Decimals

1 In a puzzle-solving competition, the times taken to solve some simple problems were:

Name of participant	Time taken
Sam	15.32 s
Holly	17.56 s
Emma	11.11 s
Elliott	10.55 s
Ravi	20.42 s

(a) (i) Who took the least amount of time to solve the problems?

(ii) Round his/her time to the nearest whole second.

(b) Round Sam's and Holly's time to the nearest tenth of a second.

Sam:

Holly:

2 Emma took part in a swimming competition. All she was told was that her time was 2 minutes to the nearest second.

(a) What is the fastest possible time Emma could have swum, measured to the nearest tenth of a second?

(b) What is the slowest possible time Emma could have swum, measured to the nearest tenth of a second?

3 These two unknown numbers have been rounded to the nearest tenth. How small could each number be?

(a) ? ? . ? ? ≈ 17.2

(b) ? ? ? . ? ? ≈ 108.9

Journaling Sums

- If one runner is 0.28 seconds faster than the next fastest, who could it be?
- In Guided Practice 1, how many pairs of jumpers are there whose best jumps may have differed by 40 cm?