

## Place value

### Winning the race: Place value

Trainer                      On your marks!

Jackie                        Concentrate

Trainer                      Get Set

Jackie                        You got this.

Oh Noooooo!

She is sooo annoying.

Every training session since the summer she's beaten me!

OK, so calm down. Let's look at this.

Wow! 15:35 seconds, that's not a bad time for me.

I just need to work out the maths here.

So my time at the start of the season was 16.44 seconds.

So after eight weeks of training I've got it down to 15.35 seconds.

So how much have I knocked off?

I can do this in my head using place value.

15.35 seconds is made up of 1 ten, 5 ones, 3 tenths and 5 hundredths.

So I need to work out the difference between 15.35 and 16.44.

If I call 15.35, 15 and 35 hundredths, to get to 16, I need an additional 65 hundredths.

Then from 16 to 16.44 hundredths is another 44 hundredths.

Add 65 and 44 and you get 109 hundredths.

Which is one second, zero tenths and nine hundredths.

So 1.09 seconds. Cool!

But I know who I need to beat. It'd be good if I knew her time.

Trainer Jackie! Come on Jackie!

Jackie No, you go ahead.

I'm just going to sit this one out. My knee's aching.  
So I get a chance to time her and then I can plan my training strategy!

(WHISTLE)

So if it took me eight weeks to knock just over a second from my time and I've got four more weeks to go.

This is going to be a real incentive for my training.

There!

14.98.

OK let's do the maths.

My time was 15.35, hers is 14.98.

So what's the difference?

From 14.98 to 15 is two hundredths of a second and then 15 to 15.35 is 35 hundredths.

So  $2 + 35$  is 37.

So I still need to shave off 37 hundredths of a second from my time to go as fast as her.

Well that seems very doable, yeah! I can easily beat her.

Let's get some water.

Hang on!

Coach always says that she runs much faster when she's in front of a big crowd.

I hate big crowds but she could knock off half a second.

I have to think about the crowd.

Well here we normally get about 850 people.

Coach says at the championships there'll be 100 times as many.

Wow that seems a lot!

I need to check this. I can use place value again.

The places are 10,000's, 1000's, 100's, 10's, 1's there's the decimal point 10th's and 100th.

So 850 multiplied by 100 you move the digits two places to the left.

85,000! It's not the Olympics?!

That can't be right. Start again.

Let's just move the digits one place to the left.

That looks more like it!

8500.

Coach must have meant ten times as many but that's still a lot of people she's definitely going to add on half a second.

I'd better get training!

Yeah, yeah I'm coming!

The knee's better now. No problem