Paper run pay

Annotation

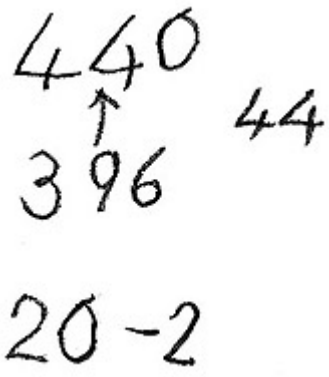
Eric estimates and efficiently uses a rounding and compensation method to solve this ‘change unknown’ multiplication problem. He also recognises the inverse operations of multiplication and division. While he knows that a long division algorithm is a viable alternative method, he chooses to use his more efficient mental strategy using jottings to keep track.

Problem: Paper run pay

The teacher shows this problem to the student and reads it with him as required:

Angus has a paper run. Each week $22 of his pay is credited automatically to his bank account. A total of $396 has been put in his account. How many weeks has Angus been doing his paper run?

Student response



Eric:	He’s been doing it for 18 weeks.
Teacher:	Tell me how you did that.
Eric:	I first thought about that as 396 divided by 22, but it’s also 22 times something equals 396. I actually found it easier that way because I figured if it was 20 weeks it’d be 440 because 10 weeks is 220 and I just doubled it. So I knew I was close. Then I just worked out that 440 is 44 more than 396 – ‘cos 396 + 4 is 400 and 40 more is 440. 20 weeks would make $44 too much. But 44 is 2 lots of 22 so it had to be 18 weeks.
Teacher:	What do you know that helped you?
Eric:	I know estimating helps me to think through the problem because it often involves rounding numbers. And it helped me here because I multiplied by 20, which is a ‘round’ number, and could then easily remove the extra 22s. Actually I could also have done it by writing a long division but my way was much easier because I could just do it in my head.