

Checking solutions to problems - answers

Here are some problems that have been solved. But are the answers right or wrong? Check whether they are correct by using a different method of calculation to reach the answer.

1. Andy's bus is due to leave West Croydon bus station at 10.35 am. The time is now 10.10. How long does he have to get to the bus station before the bus leaves?

Answer: This can be solved by subtraction. $10.35 - 10.10$. The hours are the same, so just subtract the minutes: $35 - 10 = 25$ minutes. He has 25 minutes to get there before the bus is due to leave. Is this correct?

Check: **Could be checked by addition. $10.10 + 25$ minutes = 10.35. This is correct.**

2. At Wimbledon 2011, Sabine Lisicki fastest serve was recorded at 124 mph. Naomi Broady's fastest serve was recorded at 118 mph. How much faster was Sabine's fastest serve than Naomi's?

Answer: This can be solved by subtraction. $124 - 118 = 14$. Sabine's fastest serve was 14 mph faster than Naomi's. Is this correct?

Check: **Could be checked by addition. $118 + 14 = 132$. This is not correct. The answer should be that Sabine's serve was 6 mph faster.**

3. Fernando Alonso finished a Formula-one race 11 seconds behind Sebastian Vettel, who completed the race in 1 hour 39 minutes and 36 seconds. How long did Alonso take?

Answer: Alonso was behind Vettel so this is a subtraction. The difference is only seconds so subtract 11 seconds from 36 seconds. $36 - 11 = 25$ seconds. So Alonso took 1 hour 39 minutes and 25 seconds. Is this correct?

Check: **Ask yourself if the answer is sensible. Vettel beat Alonso so his time should be faster. Vettel's time was 1 hour 39 minutes and 36 seconds, so Alonso's time should be slower (longer) than this. The answer above is incorrect. The answer should be 1 hour 39 minutes and 47 seconds. The 11 seconds should have been added not subtracted.**

4. Andrea bought 3 packs of muffins. Each pack cost 60p. How much did she spend?

Answer: This is a multiplication. Multiply 60p by 3. $60 \times 3 = 180$. She spent 180 pence (£1.80). Is this correct?

Check: **Check by division. $180 \div 3 = 60$ p. This is correct. (Use a calculator if necessary.)**