10. Sam and Pat were counting their money. They discovered that if Sam gave Pat £5, then Pat would have 5 times as much as Sam, but if Pat gave Sam £5, then Sam would have 5 times as much as Pat. How much did they have altogether?

A £10   B £15   C £20   D £25   E £30

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10. **B**   Let Sam and Pat have £x and £y respectively.
Then $y + 5 = 5(x - 5)$, that is $y = 5x - 30$. Also, $x + 5 = 5(y - 5)$, that is $x = 5y - 30$. Solving these simultaneous equations gives $x = 7.5$ and $y = 7.5$ so the friends have £15 altogether.

(*Note: from the information given, we may deduce that Sam and Pat have the same amount of money and this leads to a shorter method:* $x + 5 = 5(x - 5)$, *that is* $x = 5x - 30$, *that is* $x = 7.5$.)